The Education Digest

CONTENTS

Why Is Education Obsolete? Harvard Business Review 1

Dangerous Mirage or Master Plan? . Merit Rating 6

Significance of Knowing about Soviet Education School and Society 9

Bankers' Sons Don't Teach . The Social Studies 13

Prepare Your Teachers to Deal with Prejudice The School Executive 16

World Statistics on Education . . . Unesco 19

The Problem of Transfer . . Phi Delta Kappan 22

Education of Science Teachers . Science Education 25

A Comprehensive Program of Orientation NASSP Bulletin 29

Why Superintendents Fail . The Nation's Schools 32

Reform in the Mathematics Curriculum California Journal of Secondary Education 36

Interpretation of Reversal Errors in Reading University of Michigan Education Bulletin 39

Getting at Inner Feelings High School Principal and Staff Study Youth 42

Facts Are Vulnerable . . The Clearing House 46

Errors Made in Scoring Standardized Tests Educational and Psychological Measurement 48

"I Never Have Time to Read" National Elementary Principal 50

Professional Salaries for Teachers . . . NEA 52

With Education in Washington 55

Educational News 59

New Educational Materials 62

Volume XXIV February 1959 Number 6

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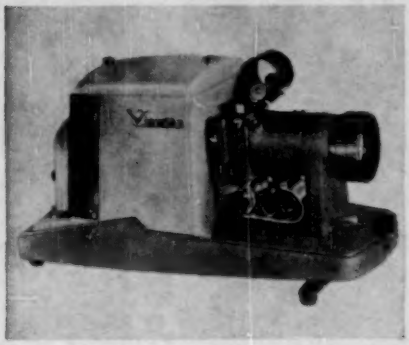

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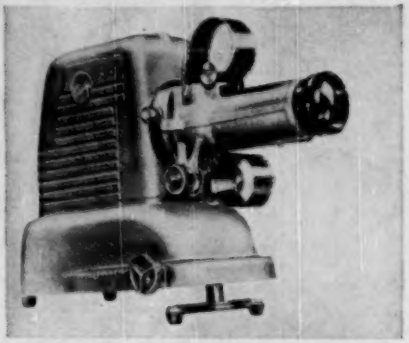

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Thinking Ahead

Why Is Education Obsolete?

MARGARET MEAD

In Harvard Business Review

WHEN we look realistically at the world in which we are living today and become aware of what the actual problems of learning are, our conception of education changes radically. Although the educational system remains basically unchanged, we are no longer dealing primarily with the *vertical* transmission of the tried and true by the old, mature, and experienced teacher to the young, immature, and inexperienced pupil. This was the system of education developed in a stable, slowly changing culture. In a world of rapid change, vertical transmission of knowledge alone no longer serves the purposes of education.

What is needed today, and what we are already moving toward, is the inclusion of another whole dimension of learning: the *lateral* transmission, to every sentient member of society, of what has just been discovered, invented, created, manufactured, or marketed. This need for lateral transmission

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exists no less in the physics or genetics laboratory than it does on the assembly line with its working force of experienced and raw workmen. The man who teaches another individual the new mathematics or the use of a newly invented tool is not sharing knowledge he acquired years ago. He learned what was new only yesterday, and his pupil must learn it today.

The whole teaching-and-learning continuum, which once was tied in an orderly and productive way to the passing of generations and the growth of the child into a man—this whole process has exploded in

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our faces. Yet even as we try to catch hold of and patch up the pieces, we fail to recognize what has happened.

In education there has been up to now no real recognition of the extent to which our present system of education is outmoded. That we have as yet failed to recognize the new character of education is apparent in a thousand ways. Despite the fact that a subject taught to college freshmen may have altered basically by the time the same students are seniors, it is still said that colleges are able to give students "a good education" – finished, wrapped up, and sealed with a degree.

Once they have left, we regard them as in some sense finished, neither capable of nor in need of further "education," for we still believe that education should come all in one piece, or rather, in a series of connected pieces, each presented as a whole at the elementary-school, the high-school, and the college level. So we speak of "interrupted" education–that is, education which has been broken into by sickness, delinquency, or military service–and we attempt, as with the GI bill, to find means of repairing this interruption.

A VIVID TRUTH

Thus we avoid facing the most vivid truth of this new age: *no one will live all his life in the world into which he was born, and no one will die in the world in which he worked in his maturity.* And for those who work on the growing edge of science, technology, or the arts, contemporary life changes at even shorter intervals. Often, only a few months may elapse before something which previously was easily taken for granted must be unlearned or transformed to fit the new state of knowledge or practice.

In this world, no one can "complete an education." The students we need are not just children who are learning to walk and talk and to read and write plus older students, conceived of as minors, who are either "going on" with or "going back" to specialized education. Rather, we need children *and* adolescents *and* young *and* mature *and* "senior" adults, each of whom is learning at the appropriate pace and with all the special advantages and disadvantages of experience peculiar to his own age.

Each and every one of these is a learner. And the learning of this world must go on not only at special times and in special places, but all through production and consumption–from the technician who must handle a new machine to the factory supervisor who must introduce its use, the union representative who must interpret it to the men, the foreman who must keep the men working, the salesman who must service a new device or find markets for it, the housewife who must understand how to care for a new material, the mother who must answer the questions of an observant four-year-old.

This, then, is what we call the *lateral transmission* of knowledge. It is not an outpouring of knowledge from the "wise old teacher" into the minds of young pupils, as in vertical transmission. Rather, it is a sharing of knowledge by the informed with the uninformed, whatever their ages. The primary prerequisite is the desire to know.

Given this situation, which of the institutions that are concerned with the revision of our educational system is to take the initiative: the educational world, the government, the armed services, citizens' voluntary organizations, churches, or industry? Each has a stake in the outcome; each has power to influence what happens; each has its own peculiar strengths and weaknesses.

INDUSTRY'S PART

Industry, however, has the peculiar advantage of understanding the major evil from which our whole educational system is suffering—*obsolescence*. In these circumstances, would it not be most appropriate for industry to take the lead in highlighting the obsolescence of our present educational system? In the United States, in 1958, approximately 67 percent of the civilian labor force are engaged in some kind of work in industry. Of the advances which account for obsolescence, a very large proportion have come out of industry. But, at the same time, much of the thinking that is holding up a real revision of our school system is based on an outmoded public image of industry as a monstrous and wicked institution which, if not restrained, would permit little boys to be sent down into coal mines or to work in conditions in which their lungs would be filled with powdered silicon.

Nevertheless it may be said that, in fact, industry has already taken the lead—within its own walls—in developing a new type of education that includes all levels of competence and training and that freely faces the need for education at the senior levels of management. In their recent survey, Clark and Sloan have presented a masterful picture of the very real contribution that education within industry is making to educational change. The thinking that has gone into this contribution, however, has not yet become an articulate, leading part of our rethinking of the educational system as a whole. But if industry, as represented by individual leaders from management and labor in many parts of the country, would come forward with plans which dramatized our dilemma, such plans would be heard.

What might these plans be? First, in regard to work done by young people, industry could say to all those who believe that children should be kept in school primarily so that they will not be on the streets or at work under bad conditions: "We will agree that young people need more supervision than older workers—that some-

one should know where they are each day, that their health should be protected and checked, and that they should be protected from organized attempts to deprave them. We will undertake to train and supervise the young people who *at this time* cannot gain anything by remaining in school."

But this would not be enough. This offer would need to be accompanied by a second one: "As soon as *any* worker—of any age, at any level—in our plant, office, or laboratory is ready to study again, we will facilitate his, or her, doing so."

This is, admittedly, a large order. But we cannot have one without the other. For as long as we continue to think that free and, when necessary, subsidized education is appropriate *only* when it is *preliminary* to work (though, exceptionally, it may be continued after some inevitable "interruption"), just so long the guardians of character, of political literacy, and of our store of talent that comes from all classes and in many cases shows itself only very slowly will argue for—and will get—longer and longer years of compulsory education and longer and longer years of free education.

Under these circumstances, the meaning of education and the purpose of schools—especially for young people between the ages of 14 and 20—will only become more confused. On the one hand, the education that is absolutely necessary for those who, at an early age, are ready to go on to become scientists, statesmen, philosophers, and poets will be hamstrung by the presence of those others who, at the same age, do not want schooling; and, on the other hand, the lives and characters of the temporary nonlearners will be ruined, and they will be incapacitated as potential later learners.

A NEW SEPARATION

What we need to do, instead, is to separate primary and secondary education—in an entirely new way:

By primary education we would mean the stage of education in which all children are taught what they need to know in order to be fully human in the world in which they are growing up—including the basic skills of reading and writing and a basic knowledge of numbers, money, geography, transportation and communication, the law, and the nations of the world.

By secondary education we would mean an education that is based on primary education and that can be obtained *in any amount* and *at any period* during the individual's whole lifetime.

By so doing, we could begin to deal effectively with the vast new demands that are being made on us. The high schools would be relieved of the nonlearners, among whom are found a large number of delinquents. But, more important, men and women, instead of preparing for a single career to which—for lack of any alternative—they must stick during their entire active lives, would realize that they might learn something else. Whatever their age, those who

were obtaining a secondary education at any level (high school, college, or even beyond) would be in school because they *wanted* to learn and *wanted* to be there—*then*.

In an educational system of this kind we could give primary education and protection to actual children as well as protection and sensitive supervision to adolescents. We could back up to the hilt the potentiality of every human being—of whatever age—to learn at any level. And we could do this proudly.

The kind and amount of leadership that industry can best take in making individual plans for sending workers—*on pay*—to get more education, and the kind and amount of leadership that can best come from tax-supported activities is a problem that will have to be thrashed out. In the United States, we usually depend on private initiative to make the first experiments before tax-supported agencies pick up the check. So, too, we shall have to work out the problem of providing special work situations for adolescents and on this basis make our decisions as to whether tax-supported institutions —rather than individual industries —should become chiefly responsible for the employment of adolescents.

But we also need to recognize articulately that there are other routes to competence than the one route provided by the conventional school. Experimental cooperative-work plans in the public schools need to be supplemented by experiments in industry.

The right to obtain a secondary education when and where the individual could use it would include not only the right of access to existing conventional types of schools but also the right of access to types of work training not yet or only now being developed—new kinds of apprenticeship and also new kinds of work teams (such as the "Day Haul," which is helping to solve our seasonal labor needs).

In thinking about an effective educational system we should recognize that the adolescent's need and right to work is as great as (perhaps greater than) his immediate need and right to study. And we must recognize that the adult's need and right to study more is as great as (perhaps greater than) his need and right to hold the same job until he is 65 years old.

Among the nations whose industrial capacities make them our competitors, the United States has a comparatively small total population. The more completely we are able to educate each individual man and woman, the greater will be our productive capacity. But we cannot accomplish the essential educational task merely by keeping children and young adults—whom we treat like children—in school longer. We *can* do it by creating an educational system in which all individuals will be assured of the secondary and higher education they want and can use any time throughout their lives. •

1959

Merit Rating Beclouds Education's Problems

Dangerous Mirage or Master Plan?

RESEARCH DEPARTMENT, AMERICAN FEDERATION OF TEACHERS

In Merit Rating, Dangerous Mirage or Master Plan?

Reported from Merit Rating, Dangerous Mirage or Master Plan?, *a publication of the American Federation of Teachers, AFL-CIO, Chicago, Illinois,* 6–10, 22–23, 53–54.

As soon as the idea of "merit rating" is put into practical terms, it is clear that there is no common agreement as to the meaning of the phrase. For years the "merit system" was used as a term opposed to the "spoils system," in schools as well as in other government employment, and meant the choice of employes according to some method of establishing training and ability rather than by the influence of a political sponsor.

But in the 1950's, "merit rating" is generally understood to be a kind of evaluation of each individual teacher's performance as an element in setting his pay. There is no one kind of evaluation and there is no one method by which salary is affected by the evaluation. The phrase has come to mean some kind of administrative plan for dealing individually with teachers in setting salaries. But "merit rating" *is* a definite change from the single salary schedules based on levels of training and experience which have become almost universal in school districts of any size in the United States in the last 15 years, and which have eliminated salary differentials between elementary and high-school teachers as such, by setting two, three, or more salary levels according to training for all elementary and secondary teachers alike.

The American Federation of Teachers through its Research Department has considered carefully all the plans for paying teachers on some evaluation of individual service, or "merit rating." The various devices by which the salary of an individual has been determined have been studied. The communities in which these plans have been used and the devices tried have been examined. The reasons why—as in many localities—they have been abandoned have been analyzed.

The questions of who does the rating (in most cases the administrator has been the key figure) and how to rate the administrator have been considered. In connection with this matter, it has been asked: "If it is accepted that the administrator is to be a teacher of his teachers, is he following the best educational patterns by stressing grades (with money rewards attached) rather than helping each

of his 'pupils' reach his best potential?"

The American Federation of Teachers has, in fact, made a complete study of the entire subject of what today is known as "merit rating." It has taken up in turn each of the arguments for and against. Its findings, in the summary which follows, are neither negative nor emotional, but are based on careful study and observation. It is hoped the conclusions of the Federation will give to all those who have concern for public education further insight into the problems posed.

CONCLUSIONS

1. *There is no professionally sound method of rating all teachers on one scale.* There is no evidence that teachers can or have been rated without purely subjective evaluations by administrators or by other teachers in any merit rating plan now in use. Subjective rating is not a defensible or workable plan even among a small group of teachers. It is completely impracticable where large numbers of different administrators use widely different subjective values in rating teachers in groups of schools.

2. *The flaws in subjective rating are magnified when used as a base for salary gradations.* It is necessary to make some such subjective evaluations in order to make some administrative decisions. When *all* teachers are to be evaluated for salary purposes, the evils of subjective rating are magnified and the time which must be spent by administrators is out of all proportion even to the advantages claimed by its proponents.

3. *Merit pay punishes, not rewards.* The present merit-rating plans, though few in number, are actually used for the most part to restrict and punish rather than to encourage and reward. Certainly they actually reward only a few hundred teachers out of the more than a million employed.

4. *Merit-rating plans in industry do not apply to the process of education of children.* Merit-rating plans in industry are not applicable to the operation of public schools. There is no way of accounting for variables in equipment and ability of children in measuring "production" in education. The intangible values of human leadership cannot be measured in terms of piece work. Merit rating in industry is applied to quantitative, not qualitative, measurements.

5. *Merit pay a failure for 50 years.* Teachers base their opposition to merit rating on professional, not personally selfish, grounds. In the 50 years during which every major school system in the United States has dropped merit rating, if it ever used it, large numbers of teachers and administrators have had an opportunity to see it in action and to make objective judgments for themselves as to its value.

6. *Merit rating runs counter to standards of professional conduct.* Merit rating is unprofessional. It discourages teamwork and profes-

sional cooperation and encourages unprofessional competition for preferment. It divides a profession sorely in need of stronger unified action.

7. *Merit rating is infinitesimal in importance in comparison with the problems facing public education.* Were it adopted, it could have no real effect on their solution. Merit rating beclouds the tremendous problems of public education today. The desperate need for revenue to meet increased enrolment, provide higher standards of training, and the professional dignity and security needed to draw more and better trained personnel into education, are all minimized by such statements that nothing can be done until merit rating is put into effect. If merit rating were put into effect from Mississippi to Maine, the problems would still remain, and perhaps have been increased. The concentration of public discussion on merit rating has become a "red herring" which diverts public attention from the basic issues.

The children of the United States face a world not only unknown to them but not recognized even by their elders. That new world has already changed faster in a decade than in many centuries of previous human history. What it will be like even 10 years from now, no person on earth knows. New sources of physical power, new alignments of ideological and nationalist groups, new strains within our own social and political economy put demands on the school training of the youth of this country for skill in science, economics, and government.

These demands cannot be met by minor devices like merit rating. They can be met only by frank admission of their existence by leaders in business, industry, and government, as well as by teachers and administrators, and a concerted and determined effort to use the slow moving but sound processes of democratic government to meet them. There is no time to lose. Let us not waste time on futile expedients and petty experiments which becloud the grave issues, and pretend that a few simple devices are all that are needed.

The United States cannot afford *not* to have good schools for every child, increasingly good schools every year, salaries which will get and hold teachers and provide every kind of modern equipment. It cannot afford *not* to have trained, competent administrators to adjust great groups of teachers and children to a rapid succession of changes. It cannot afford to have harassed, frightened teachers trying to give youth confidence in the basic principles of the democratic way of living, according to which the teachers themselves as professional workers are not allowed to live.

The time for a massive increase in the support of public education in money and in understanding is long since past. *There is no more time to lose.* •

Russians Are Neither Supermen nor Pygmies

The Significance of Knowing about Soviet Education

THOMAS WOODY

In School and Society

BEFORE considering the significance of knowing about Soviet education it might be useful to recognize the significance of our ignorance in this matter. One instance will suffice. Mr. Daniel Schorr, a Moscow correspondent, reporting April 10, 1958, on Edward R. Murrow's program, told in plain and easy terms what many were already aware of: A mass of American citizens have been rudely shaken by learning suddenly that Russians know science and the technical applications thereof; that they were *first* to launch a sputnik; that they were *first* in aerial circumnavigation of the earth with a living creature.

The significance of ignorance is plain to see. There is widespread hysteria, a brooding fear, in the United States over a feat which, if there be sportsmen among us, should be greeted with enthusiastic applause, regardless of who performs it. From this hysteria certain inferences may be drawn concerning some of the reasons for it: Our agencies of public information have not been doing their job adequately in regard to social enlightenment; and American schools have evidently taught too little about Soviet life and education.

Thomas Woody is a member of the faculty at the University of Pennsylvania, Philadelphia. *Reported from* School and Society, *LXXXVI* (*November* 8, 1958), 3–9.

That this ignorance is selfimposed scarcely needs to be added. The public has been enveloped in clouds of propaganda, since the Russian Revolution, to the effect that Russians are mere backward peasants. Not many years ago we were being told that they could not even learn to operate agricultural machines successfully. This belittling, public misinformation about the Russians, and a general lack in our schools of positive emphasis on teaching facts about the Soviet have had their just results.

Knowledge of Soviet life and education will surely have its appropriate reward, even as has ignorance. A genuine knowledge of others, a generous understanding of their striving, their successes, their failures, cannot but result in a certain composure and selfassurance on our part. We should then know that the Russians are neither giants nor supermen nor pygmies. Our domestic, ignorance-grounded hysteria would melt like mist in morn-

ing sunshine if American people freely studied Soviet people and visited them on their home ground, just as we visit freely and study other nations.

Extensive and thorough people-to-people contacts would be very important in destroying the great backlog of misunderstanding and suspicion which has grown during past decades. President Eisenhower blurted out a great truth recently, as reported by newsmen after a conference: "Governments are far more stupid than their people." This may well be true. As one of my undergraduates wrote, and thereby showed common sense that would shame a good many publicists, "It is a great tragedy that something as trivial as a sputnik . . . should suddenly cause a panic over American education. Now all celluloid journalistic geniuses are given to ranting and raving about the crisis in education." One wonders at the mental processes of those who today are all agog to imitate Soviet education, but yesterday had only harsh words for it.

It is logical to infer from the President's remark that peoples should be encouraged to visit each other and engage freely in their common-sense exchange. Unfortunately, by erecting high barriers, all in the name of security, governments frequently stand in the way of such ready people-to-people contacts. Scientists, musicians, newsmen have found themselves denied access to Russia and China by State Department regulations which are more in keeping with police states than the free America so long familiar to all of us.

A FALSE FRONT?

To those who wish to know about Soviet education, to those who are convinced of the significance of possessing such knowledge, it should be firmly stated: Comparative education, or foreign education, needs always to be viewed as the present moment emerging out of the past and moving swiftly into it. History, at its best, is comparative study. To look only at the present moment is to see the facade of a building without knowledge of its foundations and structure. It might be a Hollywood front, for all one knows. And may one not infer that many American citizens have regarded only the facade of the Soviet Union, and have thought it a papier mache setup for theatrical purposes?

The assumption, here, is that the present moment—whether it be this month, this year, or the past 40 years—cannot be understood save in the context of history. And let it be said further that when we speak of "knowledge of Soviet education" it is not as a separate subject but as one which connotes Soviet life (economic, social, political, religious aspects, etc.) and education. "Education" is an instrument of Soviet life and must, for one thing, be appraised in relation to that frame of reference and the Russian heritage.

Students of comparative education, being first of all students of educational history, are, of course, fully aware of the role of revolutions in shaping modes of educational purpose and performance. It might be assumed, therefore, that, being interested in the effect of American, French, and other past revolutions on education, it would have been the *first* concern of students of history and comparative education to see and to report on the revolution going on before their own eyes—staged, as it were, for their special benefit. It is extraordinary how little this has been the case. It is gratifying to see an alteration of attitude in very recent days.

We speak here of a revolution in the Soviet Union. But despite its prominent role of a major, historic revolution in commanding the attention of students of education and life in the Soviet Union, this should not obscure the fact that a metamorphosis of life and education is taking place, albeit in a less conspicuous fashion perhaps, all around the globe. New peoples are emerging into nationhood, others are on the doorstep of it; old cultures are experiencing a new surge of national aspiration and have already enjoyed fulfillment of their desire. Knowing about these, the old and the new, the great and the small, is highly important to the student of cultures and education today—quite as important as knowing the Soviet Union.

A favorable stance in history, in keeping with certain foregoing observations, may facilitate our understanding of the present moment, whether in the Soviet Union or in other areas of the world, East and West. Should the student take such a stance at Florence, Italy, in the thirteenth century, he might look northward in space and forward in time through the succeeding centuries to our own. He would discern certain cultural and educational trends of major character. These constitute a criterion, a standard of measurement, by which progress of modern nations may be judged. These promising deviations from past practice stemmed partly from the maturation of indigenous national cultures—long subjected to the imposed Graeco-Roman-Christian culture—and their instruments: the vulgar tongues; the classical humanistic movement; religious and ecclesiastical reform; the scientific revolution; and political revolutions which brought self-government, in theory and in practice, in varying degrees to some nations.

The student would come to know that these dynamic c h a n g e s touched Czarist Russia but slightly, if at all. In a large, general sense, they and their consequences for education reached all Russia only after Czardom was displaced by the Revolution. This event precipitately introduced certain reformist tendencies of preceding centuries into Russian culture and that of its associated polyglot people. Of these progressive deviations, a few of

crucial character will come to the attention of the student of Soviet education, for these are highly significant in judging Soviet socio-educational affairs; the vulgar tongue in education; ecclesiastical reform and its bearing on education; sex-equality, and educational and professional opportunity; scientific and technological education; and physical culture.

AGREEMENTS NOT DIFFERENCES

To one who senses the significance of knowing about Soviet education, all of these areas are of great importance to his study. The student, thus, will come to understand that—seen in the light of history—the Soviet Union has come abreast of her Western neighbors in many highly significant areas of human endeavor. He will see, also, that however numerous and great the differences which separate them (and they are many), Soviet peoples and Western peoples have very important areas of general agreement. Publicists have stressed mostly the differences to such an extent as to convince a mass of people that living with the Soviet Union is impossible. Some have, from time to time, advocated "preventive war." Now if a nation stressed only its differences and tensions and forgot its common elements, it would soon founder. The same principle holds for nations of the world community. The world community today has been shrunk to small proportions by virtue of science and technology which unite rather than divide. The same science has tapped and harnessed power for destruction on a scale that staggers imagination. If such a small world and such colossal power of destruction come together, the end result need not be in doubt. The clear, present choice is between coexistence and nonexistence.

Time and space are short, and this subject is vast. But surely a study of common trends and historic comparisons suggest that the differing aspects of life and education in the Soviet Union, her strong points and her shortcomings, merit *careful* and *continuing* study, for no nation stands still. For such study a generous contingent of research women and men is needed. That they must be well equipped in Russian and associated languages goes without saying; they need, also, a knowledge of Soviet culture and education generally, insofar as that can be gained from bookish sources. Once in the U.S.S.R., they should follow the highways and byways of Soviet life, villages, countrysides, and cities, the life and educational affairs of the tiny republics, as well as those of Muscovy. Each study thus will require much time and painful effort; but these expenditures are the same price tag that every bit of scientific knowledge bears. The end product will be worth the price; for knowledge is good for man, useful in numerous ways, and satisfying even for its own sake. •

The Problem Is National, Not Local

Bankers' Sons Don't Teach

JOHN D. GARWOOD

In The Social Studies

BANKERS' sons don't teach. And neither do lawyers.' And the reason they do not is because there is no present and no future in this occupation for those who are interested in securing a better living for themselves and their progeny.

In a word, the sons of our country's leaders in finance, industry, and the more financially revered professions do not seek their fortune in teaching. Their industry, their inventiveness, their genius, come aflower in determining how much swept-wing our fenders require, how thin our air-conditioner sets should be, how we may be kept well groomed and in good taste at all times, i.e., the universal problems of sour stomachs, yellow teeth, unruly, unreasonable hair or the dearth of it, etc.

From whence come these economic pariahs who wend their way onto the lecture platforms in college classrooms? It has been the writer's observation that they come chiefly from the lower middle class families—from families where the breadwinner is a small farmer, a skilled laborer, a small merchant, a teacher, or some other similarly circumstanced occupation. Had the candidate for economic oblivion come from a better financial situation, he would have proceeded through college into one of the more substantial professions, or gone in with dad after a culture-gratifying experience. The potential teacher, on the other hand, has little capital at his call; hence, from lack of better alternatives, he teaches.

John D. Garwood is a member of the faculty at Fort Hays State College, Hays, Kansas. Reported from The Social Studies, *XLIX (November* 1958), 203–6.

The coming of age of the Russian satellite has been a bench mark for our educational processes. During the past decade the clock has struck so softly that we have failed to hear it. There is no mistaking its tone now, however. We have been awakened to the fact that in the U. S. today we find not only a shortage of college teachers, but also we find the country's top-drawer talent is not in the field.

Despite the ragged condition of this line of endeavor, the *elan vital* of our economic and social frame of reference rests in the teacher's hands. His efforts are akin to the basic research performed by the scientists. The results, although cumulative, may not be visible for years, if then. Nevertheless, the superstructure for the future is on the scaffold of the teacher's pre-

sumed adequacy for the task at hand.

Let us examine further the low estate in which the teaching profession finds itself. Unlike other occupational areas, it exerts but small influence on the collective will of the other members of the economy in terms of securing income for services rendered. Unlike labor, business, and the farmers, professors have no political power. The teachers, the Caspar Milquetoasts of the economic world in their forty-dollar suits, may well wring their hands and call on the spirit of John Dewey.

In terms of influence on the other members of society, the professor's influence is somewhat like an ex-officio member of a commission. He may advise; he may take part in the discussion. Thus we find him, brief case in hand, hurrying to a committee meeting to study the problem, on a commission to research the need, or speaking before the Lions Club. Reports are issued as he cries out from his economic wilderness. These reports are read and everyone agrees that he is indeed in hard straits. And his professional groups provide information, witnesses to the cause, but they stand pretty much with empty holster. Remember that the organization's constituents elect no one, either through the ballot box or through an exchange of bank deposits.

The problem of college education in the U. S. today is a prime example of where the whole may not be equal to the sum of its parts—it may be greater. What is good for one state or one university or college may not be good for the aggregate public weal. It is not the duty of the state executive or board of regents to place the weal of the totality of the nation as the goal of their efforts. It is enough to solve the problems within their state boundary lines.

In the legislature of the state, reasonable, prudent, and God-fearing men may find the question resolves itself into one of higher salaries for relatively few voters or a new state road from Dover to Middletown for many voters. A moth in a carpet gnawing on a thread does not see the whole pattern, he sees only the blue thread.

NATIONAL PROBLEMS

In the last part of the nineteenth century state and local efforts to define and regulate business affected with a public interest—public utilities—faced the problem of state boundary lines. How could the State of Illinois regulate the Union Pacific Railroad which runs to the Coast? The problem is national, not state. Hence, national commissions evolved to meet the problem —the ICC, FCC, etc. In the field of banking, the wave of bank failures from 1929 to 1932 pointed up sharply that state bank insurance plans could not solve a national banking problem. We enacted the F. D. I. C. in 1933 to fill this void. In the field of drugs, food, and advertising the problem of

state boundary lines was finally faced up to in federal methods of regulation. In the farm field, the labor sector, in all of these where state boundary lines must be crossed, collective national effort is required to meet national questions.

Our higher education problem is a national one. It traverses state boundary lines. It meshes with our defense effort. Our expenditures for higher education have been less than three-quarters of 1 percent of our gross national product. We spend nearly five times as much annually on tobacco, liquor, and automobiles. We pay the farmer considerably more for the act of not producing than we do for higher education.

Speaking in San Francisco for Harvard College's fund-raising drive, President Nathan Pussey noted that while the average American college teacher's salary is $5400 annually, his Russian counterpart's salary is $18,000, while top professors earn from $35,000-$50,000 annually. Can we doubt that the best minds in Russia will be found in the academic world? Would it be reasonable to assume that this will have far-reaching effects on the Russian educational progress? If the green wood burns, what of the dry?

It seems clear that our states have not and cannot meet this national problem. The writer has not favored federal intervention in education. Yet, when the alternatives are education as it now is with our college staffs grossly under-paid and staff members leaving the field by the thousands, when our best young people seek other more lucrative lines of endeavor, when this alternative is contrasted with federal support for higher education, federal aid seems completely desirable. A national problem will never be solved on a piecemeal state basis.

We need to more than double our spending for education past the high school. It should never be less than 2 percent of our gross national product. If it is, we cheat ourselves and our children.

The telltale of the future was written high in the skies that past October in an historic unfolding which turned no sharp corners. The bell tolls with finality for a civilization which concerns itself only with ideas of yesterday . . . and there is no bringing back of what was yesterday. There is only tomorrow. •

Salary and Prestige

IT is difficult to understand why the public for so many years kept teachers to a low level of salaries, and then looked down on them because they were poorly paid. —*Virgil M. Hancher,* State University of Iowa.

Where Do Children Learn Intolerance?

Prepare Your Teachers to Deal with Prejudice

DEBORAH CANNON PARTRIDGE

In The School Executive

CHILDREN spend so many of their waking hours in the school. And for the child, the school means "the teacher." It has been generally agreed that the teacher ranks next to the parent—and possibly the religious consultant—in his importance in the early development of the child.

Here is a fact that is of great importance when we consider the child and his prejudices. For it also has been established that children are *not* born with prejudices. Nevertheless, he acquires prejudices early. Where are they acquired? Several studies indicate that children *learn* prejudice. Others point out that he adopts his attitudes from his personal contacts—that he takes them ready-made from the persons he associates with. Children learn to be intolerant at home and at school. And, unfortunately, many times they learn it from their teachers.

Thus the question is raised, "What should be the nature of teacher preparation that would help teachers meet this problem of prejudice?"

Quite obviously it seems that if the teacher is to help develop children who are incapable of hate, children of good will, she must start with an examination of her own attitudes, understandings, and behavior. She must prepare herself. She should begin with an understanding of the meaning of prejudice and must be helped through her own teacher education to develop sufficient knowledge and understanding to counteract it.

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There are many theories of the psychological bases for prejudice. But, generally speaking, personal insecurity and lack of knowledge and contact with a wide variety of people of differing ethnic, racial, or religious groups contribute to its development. Thus the teacher's preparation must begin with the development of a fully-functioning mature personality.

The teacher-education institution or in-service program should provide many avenues of expression to release the individual's creative resources and to guide him in building a self-concept and a social consciousness. Then he will accept himself and others. Such a program cannot be complete unless there are many out-of-class activities which make for free experimenta-

tion and exploration of the human and social resources of the environment. It demands college classes that are conducted in a democratic manner, where all students have an opportunity to share in the shaping of the group's experiences and feel a personal responsibility for the success or failure of the class.

Courses in mental hygiene, psychology of personality, and child psychology will not only help the prospective or in-service teacher look at herself but they will also help her understand the ingredients necessary for good mental health. The teacher will come to realize that many students have personality maladjustments often caused by inadequate parents. For many of these students the wholesome personality of the teacher is their only chance for establishing an adequate individuality. Thus, when administrators or teachers learn to approximate a fully functioning personality, this feeling will be reflected in the improved mental health of the pupil and will thus improve intergroup relations.

Certainly mental hygiene courses alone will not produce mature personalities who are incapable of hate, for the roots of prejudice also stem from ignorance and fear. Teachers preparing to deal with this insidious disease must build a backlog of understanding about the various peoples that comprise our world. America is a nation of many races, ethnic groups, and religious beliefs. We are a culture of many races and a culture of many cultures as well. Our society is also complicated by problems of social stratification.

STUDY SOCIETAL INFLUENCES

Teachers must study these matters and come to understand the societal influences which affect intergroup relations not only on the larger national scale, but, even more importantly, on the local scene. Understanding of the structural organization, historical foundations, and current social trends are necessary if teachers are to deal realistically with this important problem.

Through the intensive study of the local community the teacher will learn about its population structure (how diversified?), the location of housing (are there ghettos?), the composition of the social groups (is membership restricted because of race, creed, or color?) and other such matters that lead to or prevent intergroup understanding.

Group dynamics, an always present force, should be analyzed scientifically. If teachers are trained to do this, they will better understand the nature and situation of their classes and they can better evaluate the group experience and select the techniques which they will use to improve intergroup relations.

So much has been said about role-playing, socio-drama, sociometric process observation, the role of the leader, and other such techniques that the teacher often

loses sight of a prior concern: namely, the understanding of at least the principal social and psychological forces which are affecting the group at the time. The teacher may select the appropriate techniques more intelligently once these fundamental facts are understood. The teacher will come to realize that "good techniques" are only good when they are used appropriately.

Over and above the formal academic preparation in mental hygiene, sociology of American life, psychology of human adjustment, philosophy of intergroup relations, curriculum development, and the development of certain important skills, the teacher must have some first-hand experiences in community life in a diversified setting.

Teachers who have participated in the many "intergroup workshops," where they obtain for the first time a meaningful experience in intergroup living, remark: "I never realized that studying could be such fun," or "Gee, I wish I lived in a community that offered such diversity," or "I'm glad I got to know a Negro well."

Having lived through such activities, the teacher may be ready to develop curriculum experience for and with the learners with whom she works. Believing, as most modern educators do, that the curriculum is everything that the child does under school guidance, she will realize that the seating of the children and the general method of teacher-pupil planning may be more potent influences in developing good relations and freeing students of prejudice than all the formal discussions of contributions of Negro or Jew or German or Mexican to American culture. She will become convinced that wholesome group living must begin in the nursery school and continue throughout a student's education. Cooperative relations with other community groups will be imperative if prejudice is to be erased from our midst. She will agree with Harold C. Case that:

"Our most urgent business, next to achieving world peace and justice, is to understand prejudice, to remove discrimination, to promote mutual understanding, and to develop leaders in this work." •

A FIVE-YEAR-OLD boy attending kindergarten in a suburban New York community came home one day full of enthusiasm for a new friend, Charlie. He asked his mother if he might invite Charlie home to lunch one day. The mother gave permission, but since she knew that there were several Negro children in the class, she asked, "By the way, is Charlie white or colored?" Her little boy replied, "I don't know, Mother. I forgot to look. I'll look the next time I see him."—Otto Klineberg in *Child Study*.

Ignorance of the Figures Is Not Necessary

World Statistics on Education

BANGNEE LIU

In Unesco Background Document No. 109

IT was Lord Kelvin, the famous British scientist, who said: "When you can measure what you are speaking about and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind."

Nowadays, no well-informed person can do without the facts and figures relating to education and cultural matters, not only for his own country but also for other countries, and for the world as a whole. Ignorance in these matters is not necessary, since world statistics on education and related subjects are regularly compiled and published by one of the specialized agencies of the United Nations—namely the United Nations Educational, Scientific, and Cultural Organization (Unesco), whose activities are carried out in cooperation with national offices in more than 80 countries.

Let us take a few examples of the kinds of statistical information provided by the world educational organization.

Did you know that there are as many as 700 million adults in the world who cannot read and write in any language whatever? This implies a world illiteracy rate of about 44 percent. Of course the rate of illiteracy for individual countries varies widely, from less than 1 percent in some of the European countries to more than 95 percent among some of the African populations. But in the Western Hemisphere alone, there are some 45 million adult illiterates, with 10 countries each having from 1 to 15 million of them.

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It has been estimated that there are some 860 million children and youth in the world between the age of 5 and 19. Of this population, only about 30 percent are enrolled in primary schools and about 7 percent in secondary schools and higher institutions. The remaining 63 percent are not enrolled in any kind of school. Furthermore, this population of school-going ages is now increasing at the rate of between 15 and 20 million each year, and by 1970 will probably reach a number well over 1000 million. Will the countries of the world be prepared to provide adequate schooling for these growing generations?

In many countries, where education is compulsory for children up to the age of 14 or 15, nearly 100 percent of these are currently attending school. Among boys and girls aged 15 to 19, the proportion of those attending school varies from less than 10 percent to more than 90 percent. But there are no more than six or seven countries where this proportion is reported at more than 50 percent.

Among all the children and youth in the world who are enrolled in any kind of school—say about 330 million—about four-fifths are found in various types of primary schools, and only one-fifth in secondary or higher schools. It is interesting to note, however, that among some 10 million students pursuing higher education in the world, about 165,000 (1.6 percent) of them are studying outside their own countries.

It is impossible to give global estimates of the total expenditure for education in all countries, but the figures published by Unesco show at least 30 countries spending 2.5 percent or more of their total national income on education. This relates only to *public* expenditure on education—that is expenditure by central and local government, and does not include the considerable amounts spent by private bodies and individual households, for which no comprehensive statistics are available.

Turning to the subjects related to education, but outside the field of school statistics, we may note that there are some 400,000 public libraries in the world. At least 12 countries have each reported more than 5000 public libraries in existence. The Soviet Union alone reports 130,000 public libraries, with a total holding of almost 600 million volumes. These figures do not include the other important categories of libraries, such as national, university and school libraries, and special libraries.

Among the most important national libraries, we may cite the Library of Congress in the United States of America, with a total holding of nearly 11 million books and pamphlets and 25 million other documents; the Lenin State Library in Moscow, with about 9 million books and 11 million other items; the National Library in Paris, with a holding of 6 million printed books; the British Museum in London, with 5 million books and bound volumes of periodicals; the Saltykov-Scedrin State Public Library of Leningrad, with nearly 5 million books and 7 million other items; and the National Diet Library of Japan, with a total holding of almost 5 million in its central library and 31 branches.

BOOK PRODUCTION

World production of books and other nonperiodical publications in 1957 is estimated at about 315,000 titles, of which about 45 percent were produced in Europe, 25 percent in Asia, and 20 percent in the Soviet Union. The latter country publishes each year about 60,000

titles, of which some 45 percent represent publication for free distribution, and 55 percent those placed on the market. The annual average of titles published by the other most important book-producing countries are: Japan, 25,000; United Kingdom, 20,000; India, 18,000; Federal Republic of Germany, 16,000; United States of America, 13,000; and France, 12,000. These figures relate only to the number of titles published, without taking into consideration the number of copies printed of each title.

About 25,000 books are translated each year, over 4000 of them in the Soviet Union, and more than 2000 in Germany, including both the Democratic Republic and the Federal Republic. Other countries reporting more than 1000 translations each in 1957 were Italy, France, Czechoslovakia, Japan, Netherlands, Rumania, Spain, and Poland. More than half of all translations published during 1956 were made from English and Russian, more than 20 percent from French and German.

The authors most frequently translated in 1956 were Lenin, 331 translations; Jules Verne, 143; Leon Tolstoy, 134; Gorki, 107; Spillane, 104; Shakespeare, 89; Chekhov, 84; Marx, 81; Jack London, 77; and Stalin, 73. It is noted, however, that in the case of the Russian authors the number of translations includes those published in the various languages of the Soviet Union. In a class by itself, the Bible was translated 99 times during 1956 in 17 countries.

Interesting, also, are the figures Unesco has been able to gather concerning other activities not strictly related to the field of education—newspapers, for example. Those published in the world are estimated at over 35,000, of which 8000 are daily, and 27,000 non-daily. Unesco also has statistics concerning the production of films for theatres, an estimate of the number of radio receivers in the world, and the receivers of that newest medium of mass communication, television.

Those who are interested in world statistics referred to here would be well advised to consult the latest edition of *Basic Facts and Figures; International Statistics Relating to Education, Culture, and Mass Communications*, as well as reports of various surveys on education, libraries, book production, newspaper circulation, television and other special topics which have been published by Unesco. •

THE child attending school today in the U. S. has 20 percent fewer textbooks than the child of 10 years ago, claims the American Textbook Publishers Institute . . . The average life of textbooks is set at four to five years; of reference books, at five to seven years.

Is It as Obsolete as Formal Discipline?

The Problem of Transfer

WILLIAM CLARK TROW

In Phi Delta Kappan

A PROFESSOR of history recently wrote that in insisting on academic disciplines for all as the means for training people to think, he might be accused of believing in the transfer of training. A boner like this, coming from one who has set himself up as an authority in educational matters, suggests that another educator, G. Max Wingo, was right when he contended—also recently—that educational reformers should seriously consider the nature of retention and transfer. Confusions of this kind growing out of ignorance of scientific investigations in educational psychology during the past 50 years are no doubt in part responsible for the current resurgence of nineteenth century fundamentalism.

An opinion poll would probably show that there are about as many people in favor of thinking as are against sin. So it may be well to do a little thinking on this subject. First, a clarification of concepts. Transfer is the name for the fact that the experience of learning in one situation influences learning and performance in other situations. This influence may be positive or negative; it may facilitate or interfere with subsequent performance. In specific situations, the questions for which answers are needed are: What transfers? To what? Under what circumstances?

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The discredited doctrine of formal discipline, on the other hand, was built on the faith that the study of certain subjects in some mysterious way trained the mind. No questions were asked or permitted as to how this took place. There were only believers and heretics.

This doctrine was for a long time highly respectable and became so well entrenched that long after it was discredited by scientific research it had its supporters.

There is, however, no doubt about the existence of transfer. Psychologically, it may be viewed as the processes of stimulus and response generalization, concepts growing out of the conditioning experimentation.

Response generalization (the successive stimuli remaining the same) is a gradual modification, in successive trials, of the response which brings the reward or avoids the punishment. More broadly, it can mean a series of successive approximations which bring an im-

provement of the response in view of its consequences, and which, hence, provide continuing satisfaction (reward or reinforcement).

Stimulus generalization (the successive responses remaining the same) implies a continuing recognition of the identical component among varying concomitants. Instruction is often necessary to aid the learner in discriminating the significant stimulus, in recognizing the same concept or principle in changing surroundings.

Most problems, however, require both—generalization of the stimulus and of the response. A stereotype is the response of an individual who fails to make the necessary adjustment, *e.g.*, when you see this, do that, except that if X is present you do something else. Training is practice with the usual combinations of stimuli. Judgment is needed when there are changes in the concomitant variations. A problem is a situation in which the individual is unable to select from his acquired repertory of knowledge, habits, and skills those which enable him to make or to discover the correct response.

TRANSFER POSSIBILITIES

In view of the fact that practically all mental processes are involved in transfer, it may be that the term is becoming as obsolete as formal discipline. Let us suppose that a student had acquired some knowledge, skill, or attitude in connection with some school subject, or in an out-of-school situation. If we analyze the possibilities, we can see that his response, *i.e.*, successful "transfer," will depend on:

1. Whether he has an appropriate **set**, which involves matters of interest, readiness, and motivation. (The negative possibility here is displacement of emotional attitudes of aggression, anxiety, and the like.)

2. Whether he **perceives** the identical components, the significant stimuli, and is not distracted by the concomitant variations in the new situation. This has been called stripping the essential process of its adventitious accessories. (The negative possibility is that he may not recognize that here is a situation he has been taught to deal with.)

3. Whether, though he recognizes the situation, he **remembers** his earlier instruction—the facts, principles, or procedures needed. (The negative possibility is that he has forgotten.)

4. Whether the response to be transferred has been sufficiently rewarded or **reinforced**, so that when it is appropriate he actually makes it. (The negative possibility would be one in which the rewards for making the right response seem not so great as those for not making it.)

5. Whether he can **choose** from among conflicting stimuli when his previous experiences call for differing responses to differing components in the situation. (The negative possibility would be a wrong choice—negative transfer—failure, frustration, and the possible use of irrational defense mechanisms.)

In view of these complications, it may well be that instead of talking about transfer, we should instead carefully consider the objective of instruction and select

the content and the methods that are needed to attain them. We can no longer assume that merely dunking all students in the same brew of the disciplines will enable them to think in general. Certainly, the more competent they can become in dealing with the facts and relationships of a particular structure —a discipline, a vocation, or pattern of life—the more successful they can become as operators *within* that structure.

But if abilities, attitudes, and skills in general, and ability to think in particular, are to be transferred *outside* the structure, the emphasis must be shifted to the other kinds of situations in which they are to be used. Methods of teaching are thus of the essence, not merely "bedside manner," as was suggested by the professor of history in one of his less enlightened moments. Teaching for transfer is one name for it.

For example, if geometry is to be studied with the objective of teaching pupils to think, it must be taught in such a way that students habitually employ and require of others clear definitions of concepts, and in approaching a problem inquire into the known facts (what is "given"), and so on, not only concerning spatial relationships but about others as well. And for languages, emphasis must be placed on word study, etymology, and linguistic differences in sound, words, and meanings. Otherwise the transfer is insignificant if not negative, as several studies have shown. With all the uncertainties in the possibilities that were listed, we can hardly depend on the transfer of learning from traditional subjects, even when they are well taught, to enable young people adequately to meet life situations that confront them.

The study of mathematics and science is necessary to produce mathematicians and scientists, true enough. This is the direct, content approach. But will the study of algebra reduce the annual slaughter of 40,000 persons on our highways, or will transfer be more likely from courses in driver education? Can we depend on rigid requirements in Latin or modern languages to break up the hideous partnership of of gangsterism with labor and politics, and, on the positive side, develop competent workers and responsible citizens? Or will a direct approach to social studies and practice in solving meaningful problems cooperatively be a more likely alternative?

The heedless drivers, the mentally ill, the convicts, and the gangsters are products of our schools, and their replacements are now enrolled in them, as are the far larger number whose positive contribution we think we can count on. We should not sell them short with stale promises of mental training made by ignorant men and based on dilapidated theories which provide only traditional form without needed content. Our young people deserve something better than this. •

Don't Tell Youngsters—Let Them Find Out

The Education of Science Teachers for Today's Schools

LAURA ZIRBES

In Science Education

I WANT you to know that I am no specialist in science. I am not going to pose as one. If there is anything I want to know in science, I happen to be lucky enough to be at a university where I can refer to people who have specialized in science. But I do have a specialization and these specialists know that. They are just as likely to come and ask me about things that I know quite a little bit about. And they also are aware—as I am—that our educational specializations rest on other specializations as foundations.

Now if I, as a specialist in education, with a higher specialization in two aspects of it—elementary education and teacher education, with the teacher education sharpened toward the education of *elementary* teachers—if I come to you, I come as a specialist who has a great deal of interest in what science can do for teachers of children, and what science should be expected to do for all American children, not just the potential Einsteins and Edisons. What I am asking is, what is there in science which is essential and vital to the general education of American children?

I want to talk to you about the teachers whose task it is to teach such science to these children. Yet I don't want to talk about teacher *training*. Training is only part of the process and not the most important part. You *develop* teachers, you *educate* teachers, you *inspire* teachers, you *inform* teachers. If you simply *train* them, you go about giving them fixed ways or habits. The world is moving too fast to make that very safe. New knowledge comes in, new insights, new problems; mere training is too apt to make people fit into a groove of past habit and past ways of doing, instead of making them alert to the changing situation in which they find themselves, to the new knowledge which is developing, to the relationships between the fields in which their lives are involved. Consequently, the *development of teachers*—the development of a teacher of any level, science included—must sensitize the person to the life-relatedness of that field.

So I say that, at any level, life-relatedness should be the approach

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to the teaching of science. And that, gradually, we should show the child—and the student—that when the information you come out with gets to be voluminous you classify it and organize it in order to handle it and keep it in order; that eventually you organize different kinds of scientific data into specialized, separate fields and subdivisions of special fields, and that there are people who specialize in finding out more and more about some specific phase of science. But to start them *without* that general life-related base makes them more or less unaware of what Lewin, the psychologist, called "the field," in which the facts and findings of science are dynamically related. It makes them unaware of the carry-over possibilities to many life situations in which the sciences are not isolated.

When I consider these matters I cannot but wonder about the preparation of those who are to teach science to the children of today. I wonder if these young people who are going to teach in the elementary or the secondary school are not being handicapped by the university conception of undergraduate science courses as vestibules leading directly into specialization in science on graduate problems. I wonder if we are not leaving young people with subject-matter knowledge that has no use except for course passing, for final examinations, for college credit. I wonder if we are not leaving them uninspired and unilluminated by the wonderful things which we can get by comprehending about what the human mind can do by keeping eternally at problems that challenge inquiry. If we have too much respect for what scientists *have done*, for the experts as experts, for the education of science specialists, what happens to the education of others, to the science outlook of the developing citizen as science has bearings on it, to his inquiries into the human bearings of science on the life and work of man?

Taking the tempo of human affairs into consideration, it seems that science is going to have a greater responsibility than ever in developing the tendency to inquire, the tendency to explore, the tendency to respect "freedom to explore," as Norbert Wiener states it. To raise human life and aspiration to its highest potential, we need freedom to explore and a sense of the significance of exploring beyond what we know; a sense of the way to explore to extend human knowledge; and a sense of respect for what other people have discovered. Everyone needs the combination of attitudes, concepts, and insights conducive to freedom from ignorance, superstition, and unreasoned fears.

Everyone needs consumer understandings about the specialized science fields. Those who guide or teach children and youth need a science orientation which differs from that of the persons headed for science specialization. Those who are headed toward teaching

or guidance also need more insight into the science of human growth, development, learning, and adjustment. Children are still developing when they enter high school. Many of the things teachers don't understand about 13 and 14 year olds, would be understood better if they understood child development. Insight into the nature of the individual and the nature of groups enables teachers to pace learning and guidance to the learner's level instead of becoming responsible for failure by failing to do so.

Knowledge about human development is every bit as specialized and respectable as any branch of science taught in schools. There are tomes of new knowledge on human development, on human attitudes, on human limitations at various levels. And anyone who is going to teach *people*, whether he intends to teach science, literature, or anything else, needs to inform himself, needs to equip himself with insights into development, into the nature of learning, into the nature of society and its problems, and into the role of science in life today —but also, into the art of teaching which applies and integrates these insights.

That means that everyone who is going to teach science must be protected from falling back on the way he was taught, must have some kind of an exposure to the method of fostering inquiry as the modern method of science teaching, the method of cooperative thinking. He must somehow or other learn not to assume that the questions and answers are all in the book, and that the teacher merely assigns, knows, and tells. He must conceive of the teacher as the person who develops children's capacities for inquiry, so that they become more and more responsible and more and more independent inquirers and not just persons who expect to have answers handed to them.

When a youngster looking at a candle says, "Why did it go out?" it is so easy to just say, "Be quiet," or "I will tell you all about it." It is much more difficult to find the art of having the child *find* out why the candle went out. Interesting propositions are constantly coming up in which children need to be guided by people who know the way of finding out, and who also know how to help children along that way, to show them resources that can be used to make the simple laboratory facilities for active learning available. I am not referring to standard laboratory equipment nor to textbooks or encyclopedias although they all have their place.

There is a helpful new pamphlet entitled *Science for Children and Teachers*. It is by Herbert S. Zim, who is one of a number of science educators whose materials indicate that he understands children and knows how to make science a life-related, developmental challenge to them. Prospective teachers will catch the spirit of that by contact with materials like this, by noting

the suggested resources which would enable any teacher to do a better job in relating science to life. Even on high-school levels, particularly with subject-centered or textbook-centered instruction, it helps to use the problems and materials of everyday life involving pupils in the homely experiments which bring science a little closer to their interests and give them the challenge of discovery.

A student was telling me about some youngsters who wanted to know how a dam worked. I said, "What did you do?" Her answer was, "I told them." My disappointed look made her ask, "What was wrong with that?" I did not *tell* her, but I helped her to find out, and to realize why *telling* was not as good as what she might have done.

Prospective teachers *need* information, but information which enables them to restrain the impulse to *tell* what children can be guided to *discover* and share with their classmates through active inquiry, observation, or experiment. Prospective science teachers need many guided opportunities to work with children in such activities. Even when science methods courses provide opportunities for prospective teachers to do such things themselves, as individuals or in groups, there is need to realize that this may incline them to direct children's activities in terms of what *they* have done in their own course work, or to do much or all of the planning and work themselves. This obviously reduces the science values to the children greatly.

Prospective teachers need to have the values and value potentials of children's science activities made explicit to make sure that their practices give children access to those values. This is only one safeguard against formal, sterile, didactic teaching. Somewhere in their preparation, students need to explore the educational possibilities of trips which are rich in their potentialties for special aspects of science at various levels.

Prospective teachers also need experiences in student-teaching which enable them to see how science values may be related to other curricular values in the school day. As student teachers, they need experiences in sharing discussions of common problems with other students and in evaluating various aspects of their own work, viz., (1) their responsiveness to children's science needs, (2) their sensitivity to the science potentialities of children's comments and questions, (3) their use of experiences, resources, and materials through which the science interests of individuals may be developed and the science learnings of classroom groups may be enriched.

It is through constructive guidance based on such evaluations that prospective teachers may be helped to integrate their preparatory experiences with increasing competence and confidence, and develop readiness for further growth in service. •

Just Presenting Information Is Not Enough

A Comprehensive Program of Orientation

ROBERT E. FITZ PATRICK and EMMA E. PLATTOR

In The Bulletin of the National Association of Secondary-School Principals

IN many school districts today there is an increasing awareness of the role which positive orientation experiences play in the difficult transition from childhood to youth and the satisfactions which students realize from their educational and vocational preparation. At the junior-senior high school of the fast-growing Plainview School District on Long Island, near New York City, the administration and guidance staff has developed a program to serve such needs.

Based on the expressed needs of the faculty and administration of both the elementary and secondary levels in the district, the program has won many friends in the community. The first phase of the program deals with the initial introduction of elementary students to secondary school; the second concerns itself with the planning and analysis required in the transition from eighth to ninth grade.

The first-phase program starts in November with weekly meetings held with each sixth-grade class. Compositions on the topic "What I Want to Know about Junior-High School" bring out some of the needs which can be met in such meetings. Toward the end of March, planning by the combined faculties and students of both the elementary and junior-high schools is begun. A panel of junior-high-school students meets with the sixth grades at assembly programs in their respective schools to discuss the secondary school and to answer questions.

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Trips to the junior-high school are made by the sixth-grade students. Two classes per day, accompanied by their respective teachers, are taken by school bus to the junior-high school, arriving at nine-o'clock in the morning. The pupils are greeted on arrival by the counselor and an administrator, and each is assigned a seventh-grade "buddy" whose class program both will follow for several periods. The seventh-grade students who serve as buddies are carefully selected by their teachers and are well briefed on their responsibilities to the sixth-grade students. Together they attend four periods. Teachers are requested to make no change in the conduct of their classes. Each guide is requested to bring his

"guest" to the guidance office during his lunch period. At this time, the sixth-grade students are taken in small groups on a tour of the entire building by the counselor. When all the junior-high-school pupils have completed their lunch periods, guides bring the sixth-grade students to the cafeteria for a final luncheon conference.

Immediately after the tours are completed, an orientation meeting is scheduled for the parents of sixth-grade pupils. Parents also are taken on tours of the building and learn of the program and services of the junior-high school. Their comments during and after these meetings have indicated that the program has been successful in creating an awareness on the part of the parents of the efforts which the school is making to prepare each youngster to complete successfully the transition from elementary to secondary school.

As the change from childhood to youth continues, as a growing awareness of the function of the secondary school gradually permeates the student's thinking, the same seventh-grade pupils who benefitted from carefully planned program of orientation experiences on entering the junior-high school look forward to high school with anticipation and confidence. Continuation of a comprehensive program of articulation and orientation should thus result in a well-adjusted, comfortable high-school student.

Although the junior-senior high school with which this report is concerned is organized on a 6-6 basis, the fact remains that a major change takes place at the end of the eighth grade. While the three junior-high-school years—7, 8, and 9—are theoretically exploratory in nature, for all practical purposes the exploratory phase ends at the close of the eighth year as the Carnegie Unit system goes into effect at the start of the ninth year. Because of limited knowledge and experience, most eighth-grade students are not prepared to make definite vocational choices. However, they *have* explored enough school subjects to begin to recognize their own interests and abilities. In order to make the selection of a high-school program more meaningful to parents and their children, a comprehensive program of group guidance and individual counseling was undertaken at Plainview.

HIGH-SCHOOL ORIENTATION

The development of this phase of orientation began, as did the first, with meetings of high-school faculty members with the eighth-grade counselor for agreement on a plan of action. The program begins in October with group guidance sessions in which the eighth-grade counselor meets each eighth-grade section once a week over a period of three weeks. In these meetings pupils are helped in methods of selfanalysis and at the third meeting the counselor works individually with each youngster,

checking and correcting charts and plan sheets made by the students.

When the counselor feels that the student's choices are not realistic, the student is asked to consider possible alternate choices for further discussion during the individual interview. To further assist in program planning each eighth-grade pupil is given an intelligence test and a mathematics fundamentals diagnostic test. These tests supplement an achievement battery in reading, language, and mathematics administered in the seventh grade.

This part of the program is followed by parents' meetings. As a result of personal invitations, followed by telephone calls made by a squad of eighth-grade students and announcements carried in local and regional newspapers, 250 parents of a class of 300 students attended such a meeting. The counselor conducted the first part of this meeting as a demonstration of a group-guidance meeting, while parents held handbooks which had been used in group-guidance sessions. The question and answer period which followed lasted more than an hour. The value of individual conferences was explained to the parents. Charts were posted around the room and the parents asked to fill in their choice of day and time for their conferences. Interviews were planned from December through April and more than 100 appointments were made that night. Additional appointments were completed later.

During the later interviews the pupil and his parent plan an initial listing of ninth-year and tenth-year course selections plus curricular choices. At the same time a major sequence is selected and the courses tentatively planned in pencil on a separate card which is placed in the student's cumulative folder.

This Plainview program has met with a tremendous degree of faculty, student, parent, and community support. Like professional educators, this community appears to be very much aware that the time has passed when just presenting information is sufficient. The sheer complexity of educational and vocational choice strongly points up the need for the student to see himself in terms of a total picture in order to choose realistically. Faculty members involved in this project have indicated their strong feelings that the best high-school education is obtained when students enrol in courses which they and their parents have selected carefully, based on professional counseling.

An orientation and articulation program should have as its basic aim the mutual adjustment of the pupil to the school and the school to the pupil, and should provide guidance services and cooperative faculty planning to implement this aim. When such a program is available, a framework is provided within which every student can derive the maximum satisfaction from his educational experiences. •

Are the Stars in the Right Position?

Why Superintendents Fail

FREDERICK J. MOFFITT

In The Nation's Schools

THE often recurring separation between school administrators and their schools is nothing particularly recent. It happened to Dr. Socrates because he drank too much hemlock at an educational convention. It would have clobbered Mr. Chips, save that he had a strong admirer on the school board. The inscription on a thousand bronze honor plaques and corner stones bears record that the school superintendent usually departs hastily before the building program is completed. A histrionic testimonial dinner to a school administrator is no proof that the honored guest is not being given a secret hotfoot along with the customary traveling bag.

Whatever the causes of the flux and flow of school administrators, it is a commonly accepted fact that they fail more controversially, more militantly, and more publicly than is the case in any other profession.

Administrative failure may be defined as that condition of affairs which results in undesirable termination, abrupt dismissal, or unexpected abrogation of contract; of having one's wife snubbed at the Sewing Society or one's self blamed for circumstances beyond one's control; of being hooted at by adolescents and zealously bitten by canines sicked on with community approbation and encouragement; of an increase in nervous indigestion and stomach ulcers above and beyond the regular call of duty. When these events occur simultaneously to a school superintendent, it should be a warning that he has failed in some small measure or, what is more important, his employers think he has failed.

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Why do such events so often gang up on school administrators? Why do school superintendents bloom for such a brief period, or even less? By careful study of the reasons for failure, a few school heads may be saved and education may go forward more smoothly than is ordinarily the American wont.

The common failures appear to fall into four classifications: (1) the peculiar physical appearance of the administrator; (2) the personality characteristics of school administrators and the majority of their public; (3) the enmity of such organizations as The Sons of Beech Tree Preservation, the So-

ciety of Mrs. Busty's, and the Retired Taxpayers Association, and (4) the unfortunate juxtaposition of the stars of no particular date or for no forseeable reason. While these causes of failure may be symptomatic only and not the disease itself, they result in painful hiatuses which can become the subject of doubt and inferiority complexes.

A STATE OF MIND

As real causes of failure, all of the physical, personal, mental, and spiritual deficiencies pale into insignificance in the face of community pressures, such as Mrs. Busty and the aforementioned Sons of B's. Mrs. Busty is not so much an individual as an organization or a personal disaster. She represents a state of mind motivated by an irresistable force. School administrators who feel they can cut down Mrs. Busty *et al.* to a reasonable size are too often mistaken. There will always be a Mrs. Busty in every community.

In order to make a useful study of the uprisings and downsittings of administrators the author decided to interview the particular groups who combine, cooperate, resist, and otherwise participate in the success or failure of a school superintendent. The groups thus selected for questionnaires, interviews, and recriminations included boards of education, public representatives, parents and grandparents, teachers, children, and Old Man McGillicuddy. Mr. McGillicuddy was chosen because he is possibly the only known school administrator whose stay in office, until his unexplained retirement, was not involuntarily terminated.

The school boards interviewed had many answers. Here I shall quote but one—the most common indictment—as it was expressed by that big-mouthed president of my own board at Sugartown. "School administrators are Taggers," he said, "and today, more than ever, we need Leaders. Our generous salary scale, which is almost as high as the local hod carriers union, should attract leaders, but we only get scared administrators who will not lead. Where the superintendent leads, the boards will follow," he orated as he fired several teachers and red-penciled a number of curriculums.

JUMPY AND GRUMPY

"Why do school administrators fail?" our survey asked the public. Here answers were contentious. It is unfortunate that the public was queried at a time when the national motto had just been changed from "Live It Up" to "Get Tough." The replies showed that people in general were somewhat jumpy and grumpy.

Specific charges thrown at the school administrator included: (1) lack of discipline, (2) juvenile delinquency, (3) a soft curriculum, (4) an excess of chrome, (5) the five-hour day, (6) the increase of TV commercials, and (7) the high cost of baby sitters. It is to be

hoped that before these replies can be correlated and some trend established, the economy may be in a more tender and happier mood.

MORE AND LESS EVERYTHING

Surprisingly, the interviews with parents brought out a more tolerant and forgiving state of mind and it is obvious that, except for a large number of noisy exceptions, parents have little to do with administrative failure. In a few cases, this may be because of fear of reprisal but, generally, parents seem to feel that the superintendent has a tough job and is no more bewildered than they themselves. Suggestions were made that he might try to understand children a little better, speak to parental groups more and service clubs less, and be a little more understanding of parental problems. Some felt that, in the rush for bigger schools, their children were being consolidated. Others agreed that there should be more and less homework, higher and lower scholarship, less psychology and more guidance, and longer and shorter school hours. Some parents expressed the wish that the superintendent could be more accessible as well as a little less positive, pompous, and pedagogical. The administrator who can solve these minor problems is well on his way.

In the interests of accuracy, it must be recorded that the interviews with teachers as to why superintendents fail were somewhat a flop. The teachers were too busy to comment. Most of them were hysterically reviewing notes taken in their college science classes, buying telescopes, and calling the fire department as they dodged the rockets prepared by their little charges.

SEE YOU IN THE PAPERS

Similarly, the survey of the children added little light on the question. Most of the pupils queried were vague and confused. "Our superintendents come and go so fast," said one intelligent moppet, "that we don't get to know any of them by sight. However," he added with some pride, "their pictures are often in the newspaper, especially when they are leaving." Inasmuch as this comment had no relevance, it was not considered.

On this melancholy note, the study seemed to have reached an impasse. It was with slight anticipation that the contradictory findings were collated for former Supt. McGillicuddy in the hope that his amazing 15-year record of job tenure might shed further light on the question.

"This is about what I would expect," said McGillicuddy after studying the returns. "You obviously failed to see the executive career because of the brickbats.

"It is true that superintendents, being human, fail. A few fail because they are unfit or incompetent or physically unable to carry on. A few fail because they grow old, tired, cynical, or disillusioned. Some fail because they succeed too

quickly. Others probably get too involved with involvement, projected because of the multiplicity of projects, or rolled because of role-playing.

"Basically, however, failure in school administration comes about because the administrator and his public fail to recognize the importance, magnitude, and complexity of the job. Our schools are facing the greatest challenge in their history—the problem of a changing physical, social, economic, and moral world. Schoolmastery today is a big job and not for picayune thinkers, a tough job not for weaklings, an heroic job not for cowards. It is a job which needs rethinking and reorientation, which constantly demands more wisdom, imagination, courage, leadership, understanding, and humility.

"I know of no single group," said McGillicuddy, "where these very qualities are possessed in greater measure than by the thousands of dedicated school administrators in America. I know of no other job where failure occurs so seldom."

As McGillicuddy spoke, he glanced out of the window. Without dismay he observed the long line of moving vans carrying the household goods of scores of educational migrants. He heard the strident cries of newsboys as they proclaimed the results of the latest battles in near-by districts.

"Don't be misled by outward appearances," said McGillicuddy. "Many of these folk are leaving for more pleasant climates and more vigorous communities. Others are marching on to new satisfactions and greater challenges. But in practically every case, each one has left a community which will be richer and stronger because of his labors.

"Your study of the failure of school administrators is all wet," said McGillicuddy dryly, "because you failed fundamentally to define or analyze the meaning of failure. You failed to perceive that in our complex modern civilization a school administrator must sometimes play the part of a gadfly on the public epidermis and philosophically accept the swat aimed at him. You failed to understand that in school administration, more often than not, failure may be the sign of success." •

Are You Looking for a New Job?

• Advertisement in a French newspaper: High-school graduate wanted to work in a dynamite factory. Must be willing to travel.—From *Christopher News.*

• Advertisement in a farmers' magazine: Wanted—a dairy farm employe. Must not have any bad habits—smoke, drink, or eat margarine.—From *Ulster Education.*

The Situation Is Unsatisfactory

Reform in the Mathematics Curriculum

MORRIS KLINE

In California Journal of Secondary Education

THERE is considerable agitation in mathematical circles for reform of the high-school mathematics curriculum. This interest in reform is both understandable and commendable. There is rather universal agreement that the present mathematics curriculum is poor. In fact, the evidence is unmistakable. The vast majority of the students who take mathematics dislike it. Hence they take as little as possible and are happy to be through with it. Improvement in the curriculum is not only in order but long overdue.

Today there are several groups at work on the problem. Their efforts are being publicized by talks, articles, pamphlets, and demonstrations. One can get the impression that the ideal curriculum is at hand and that it contains the solution to the difficulties several generations of teachers have encountered in putting mathematics across.

Nevertheless, teachers and administrators will be wise to examine the nature and the status of the reforms being pressed. And they might ask themselves, also, if there are other suggestions for reform of mathematics study which may be worth trying? There are, and I should like to sketch one.

It seems to the writer that the present difficulties in putting mathematics across are *not* due to a poor curriculum. A few topics, such as logarithmic solution of triangles still commonly taught in trigonometry, are indeed outmoded, but these are just a small part of the curriculum. The subjects taught—algebra, Euclidean geometry, trigonometry, solid geometry, and, in many schools, analytic geometry—are still the basic subjects, basic from the standpoint of the logical structure of mathematics and basic from the standpoint of application to the sciences and engineering. The trouble with the present curriculum lies rather in the way in which we *approach* the material we teach. Mathematics is commonly presented as a series of techniques, processes, and theorems. There is no motivation for the material; the subject is isolated from all other bodies of knowledge and human interests; and the knowledge acquired seems useless except perhaps to prepare a student to pursue more of this unattractive material.

If these are the difficulties, the

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remedies are obvious. First of all, we must take the time and the trouble to arouse interest in mathematics, to motivate the learning. It is true that a few students will respond to the sheer intellectual challenge if this subject is so presented. However, solid motivation for the many can be achieved by the introduction of simple, genuine, and basic problems which can be formulated and solved mathematically and which, at the same time, lead to the concepts we wish to teach. In view of the intimate connection between mathematics and the physical sciences, most of the problems will come from this area. However, music, art, biology, and the social sciences also provide good problems and each of these fields can be exploited to handle the problem of motivation.

Of course, mathematics must not be submerged in a host of applications. To formulate a problem mathematically, one must introduce mathematical concepts. To solve the problem, one must learn and apply its techniques. Mathematical methods are different from other methods and possess their own effectiveness, else mathematics would not be the powerful subject it now is. Hence, the nature, concepts, and role of mathematics would be the primary object of attention despite the use of physical and other problems to motivate the subject and to demonstrate the values of mathematics. There should be no question that one is teaching mathematics.

It is important, also, that in offering problems the trivial be distinguished from the fundamental. Applications should be selected which will enlighten students about their world. Problems which involve light, sound, electricity, for example, are not only basic but involve familiar phenomena.

The need to arouse interest by introducing physical and other problems will necessitate some changes in at least the order of topics. It would be desirable to reorganize the rifst year's work especially, so as to permit the introduction of broader and yet technically simple themes and to introduce the algebraic processes, traditionally taught here, only as needed in the solution of larger problems. The use of functions in the study of motion, light, and gravitation is a fine possibility.

If some of the processes now taught should be delayed until a second year of algebra when the availability of geometry permits more varied investigations, there will, in the long run, be no loss. Certainly if we take into account that the present second year of high-school algebra must repeat almost all that is taught in the first year because the meaningless material does not stay with the student, and that the first year of college also repeats a great deal of high-school work, then we can see that we shall not lose time but may gain it. Moreover, we now lose most of the students who take high-school mathematics because they

find no interest in the subject and see no point in studying it. Here, too, if we can attract more students, we shall gain.

In the geometry course, also, we must, while preserving the unavoidable logical order, introduce problems and applications which will show the importance of the subject. The student who is taught that the altitudes of a triangle meet in a point and says, "So what?" has raised a question which deserves an answer. We might hope that the beauty of the deductive structure of mathematics and the appeal of its convincing arguments would win students over at least in geometry where logical structure and reasoning are more readily presented. But the appeal of such values is apparently not enough, and even if it were it would not do justice to the power and nature of mathematics.

The use of physical problems to arouse interest, to give meaning to the mathematics by enabling the student to see physically what his formulas and theorems are saying, and to show the accomplishments of mathematics is pedagogically wise. But there is a deeper reason for presenting mathematics in conjunction with other branches of knowledge while of course emphasizing the mathematics. Knowledge is a whole and mathematics is part of that whole.

Mathematics in every age has been intimately involved in most of the broad intellectual and artistic movements. The separation of knowledge into history, science, mathematics, and so on is the artificial presentation and, though necessary to some extent for pedagogical reasons, should not be pursued to the detriment of learning. Indeed were mathematics an isolated discipline it would appeal only to esoterics and would warrant a no more important place in the high-school curriculum than, say, music.

It seems to the writer that mathematics motivated by and applied to problems of many other fields of knowledge and human activity would be attractive to students. Such a presentation should meet the objectives of teaching the nature of mathematics, the power of deductive reasoning, the certitude gained by proof, and the disclosure of fields of study among which the high-school student may ultimately choose a career.

The writer has thought a good deal about the approach to the mathematics curriculum which has just been sketched, has worked on it, and has discussed it with a number of college professors and high-school teachers. It is true of this approach, like the others now being proposed, that a detailed curriculum is not available. Nor has experimentation on a large scale been attempted.

Meanwhile the situation in mathematics education is unsatisfactory from the standpoints of attracting students and of effective pedagogy. All one can do is watch the progress being made in the several directions being pursued. •

There Saw a Stop no the Button Cuffs

An Interpretation of Reversal Errors in Reading

IRVING H. ANDERSON

In The University of Michigan School of Education Bulletin

ERRORS of reversal have long been identified with reading disabilities. In fact, some writers regard reversals as the hallmark of reading disability. Those who take this view are mainly medical people, engaged in the study of language disorders. One writer in the medical field even has coined the term *strephosymbolia* (meaning twisted symbols) to describe reading difficulties stemming from a reversal tendency.

This term adds nothing to our understanding of reversals. What else should we know about the subject of reversals, apart from the name, to apply to the child's predicament?

Errors of reversal are commonly defined to include (1) reversals of single letters such as confusing *b* and *d*, and *p* and *q*; (2) reversals of whole words such as confusing *was* and *saw*, and *on* and *no;* (3) transpositions of letters within words (partial reversals) such as reading *from* for *form* and *stop* for *spot*; and (4) transpositions in word order such as reading "cuff buttons" as "button cuffs."

Parents often harbor the impression that reversal errors are caused by a visual aberration, described as "mirror vision." Even teachers occasionally have referred to "mirror-eye handicap," and entertain such notions. The discovery that children with reading problems make reversals in their reading does not mean that they actually see letters and words in reverse. The proof of this assertion is that they are able to copy correctly the very letters and words they often confuse. Even *b* and *d* are copied perfectly, although often hopelessly confused when read. The problem is not one of vision, but one of recognition and recall.

There is a theory which attempts to explain reversal in terms of failure to establish unilateral cerebral dominance.

Experiments have been made with ambidextrous individuals and with right-handed and left-handed persons. Studies also have been made of eye preference as related to this problem. A few studies have found that mixed preference of hand and eye is more common among poor readers than among good readers. A great many other studies have reported negative re-

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sults. The evidence is abundantly clear that mixed eye-hand preference does occur among good readers as well as among the poor readers.

In the light of these findings, it does not appear that mixed dominance is a factor of any great importance in reading disability. Even more uncertain is the evidence linking errors of reversal to mixed dominance. Fortunately, the reversal problem can be understood without involving any assumption about brain physiology.

Errors of reversal occur among all children during the early days of learning to read. Once children are over the initial hurdle of learning to read, reversals decline rapidly in frequency. Individual differences occur, of course, and a few children continue to present a reversal problem for some time.

The ease with which most children achieve freedom from reversals follows from the stress which beginning methods place on the left-to-right direction of reading. Children first acquire a feeling for the left-to-right direction by watching the teacher sweep her pointer or finger from left to right along the line. They learn to direct their attention to word beginnings by observing the teacher underscore words in the same manner. Practice in phonetic analysis and sound-blending exercises provide additional training in left-to-right methods of word attack. By means of these and other techniques well known to the experienced teacher, most children learn to follow the lines accurately from left to right and to tackle words in the same direction. Errors of reversal are few among such children.

Reversals do remain a problem when the left-to-right direction of reading is not consistently observed. Studies of the eye movements of poor readers reveal that they make frequent regressions or right-to-left excursions of the eyes. Regressions many produce changes in word order, and may also divert the pupils' attention to the wrong end of the word.

SENSE OF DIRECTION

Failure to acquire a proper sense of direction may be related to several factors. It is no accident that boys more often suffer reading disabilities than girls or that boys have more trouble than girls with reversals. It is well known that girls tend to mature more rapidly than boys. These facts suggest that a delay in learning to read and a perseveration of the reversal problem may involve a developmental lag. This is not to say that the reversal problem can be dismissed simply by dropping it in the lap of maturation. The correction of reversals will still require suitable reading experiences, but a question of the pupil's readiness to profit from such corrective experiences may also be involved.

The modern practice of teaching the words of the beginning vocabulary as sight words by the whole-word method may introduce a re-

versal problem. The word method does not control the direction in which the child views the word. The child can jump in anywhere. If he jumps in at the end, he may attack the word backward and reverse it or confuse it with some other word that *begins* with the same letter with which the word in question ends.

The method of teaching the sounds of final phonograms by presenting words in families may lead to a similar problem. Families are constructed from these phonograms by using different initial consonants. The words formed from each phonogram are presented as a family to call attention to the similarity of ending. This technique is intrinsically sound as an exercise in phonetic analysis. However, if used excessively, it may introduce a reversal problem by encouraging the child to look at the end of the word first.

Too much significance has been attached to errors of reversal as representing the characteristic symptom of reading disability. Reversals are not the most common errors associated with reading disability. Far more frequent than reversals are confusions based on partial perceptions of words, in which the child reacts to only part of the word and then confuses it with some other word containing the same component. These confusions more often involve word beginnings than word endings, indicating that the children have at least learned to direct their attention to the beginning of the word and that their difficulty does not stem from a preference for the end of the word. However, some reversals do occur and they must be treated along with the rest of the child's reading difficulties.

As explained before, techniques which stress the left-to-right direction of reading will serve to correct reversal tendencies. Exercises which require writing are useful in this connection, inasmuch as writing more or less automatically controls the direction of movement from left to right. Tracing and copying exert a similar control of direction. One of the secrets of Fernald's kinesthetic method is that it incorporates tracing. One writer recommends typewriting as a remedy for reversals, offering as his rationale the idea that typewriters write in only one direction. Well and good, but what of the transposition of letters and changes in word order which often occur in typewriting? •

Errors in Spelling

• A Minnesota junior-high pupil wrote about her "high jean" class.—From *Minnesota Journal of Education.*

• English common law gave us the "writ of hideous corpus."—From *NEA Journal.*

• Rain is a form of participation.—From *Metropolitan Detroit Science Review.*

Is Listening Painful to You?

Getting at Inner Feelings

GLYN MORRIS

In The High School Principal and Staff Study Youth

TO those who make a study of youth, many of the means of obtaining information about an individual are well known. But these persons come to know that even when many facts are known about an individual there may still be uncertainty about what motivates him—about what his major frustrations may be. This is because much of an individual's pattern of motivation is hidden from view, even from himself. However, he reveals it indirectly to the careful observer. An obvious example of this is the person who covers his own inner insecurity by playing the part of the braggadocio. Feelings and motivations are frequently "projected" in some form or other, even though we learn to cover and camouflage them as we grow older.

There are several simple devices for extending the dimension of a pupil's feelings. One is known as the "incomplete sentence technique." When the pupil is given the first words in a long list of carefully selected incomplete sentences, his completions can yield valuable supplementary information about him. When this test is used one can become somewhat familiar with typical responses of pupils and thereby distinguish unusual responses. Let the following—offered without comment about the known circumstances—serve as one example of this point. The italics indicate the added words.

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One child completed two sentences as follows:

A mother *is someone whom you know loves you.*

A husband *is a married man with marital responsibilities.*

A second wrote:

A mother *bear is dangerous.*

A husband *is foolish to get married.*

There are a number of other devices such as the one sometimes called "If I Had Three Wishes," which teachers have found very revealing. As in all situations requiring interpretation—where a teacher presumes to "pass judgment" on a pupil—the teacher must not assume the role of a psychiatrist. But since teachers pass judgment anyway, it seems proper to suggest that their judgment be

based on as much information as can possibly be gathered on an individual pupil and that a thorough investigation of his motives be made. When several teachers pool their collective judgment in interpreting such a device the pupil will be reasonably safeguarded.

One of the obstacles to adult understanding of youth is that adults tend to seek information from youth only on matters of concern to adults. What is needed, however, is for adults to develop skill and ease in handling methods that are not structured entirely to adult values but which permit youth to express themselves in their own way and on their own terms. In a sense, teachers must learn to "listen with a third ear," as Theodor Reik suggests, which in effect means a freewheeling receptivity to the meaning of what youth do and what they say in their own way.

The "incomplete sentence" is an example of this so-called "open-end" procedure, *i.e.*, one in which a situation is presented to a pupil and which he responds to in his own way. The value of this procedure is highlighted when compared with questions which yield only a "yes" or "no" response.

One of the occupational hazards of teaching is talking too much. And understandably so. The teacher sees himself as an imparter of knowledge. He believes that when he is talking the pupils are learning. Correspondingly, this often leads to personal discomfort when he is not doing the talking or, at least, when the pupil is not discussing the topic along those lines the teacher is trying to get him to learn. All of which makes listening difficult, if not absolutely painful, for some teachers.

However, if principals and teachers wish to improve their understanding of youth they must hear them out, and provide ample opportunity for youth to formulate and express their feelings, aspirations, and fears. In other words, the school should provide opportunities for pupils to express themselves. This may be done in homeroom periods or in classroom situations, especially during English and social studies.

This is not the place to discuss administrative procedures, curriculum, and organization. The program should, however, include provisions for adequate guidance, broadly conceived. This means counseling of the "listening" kind; activities for all, under leadership trained in democratic procedures; group guidance; homeroom or similar programs of a creative kind in which pupils have an opportunity to initiate projects geared to their needs and interests; and, throughout, due consideration for the extent and quality of participation by all pupils in proportion to their needs and abilities. In such a program, teachers assume guidance responsibilities which include "listening" to pupils as an essential component.

Young people are usually eager

to discuss their problems when given the opportunity to do so. The trained counselor must be a disciplined listener. Sometimes he must listen for long periods before he discovers the right wave length and can tune in on what the client is really saying.

He should look for and respond to the pupils' feelings. He should avoid punctuating every statement made by the other person with a qualifying or expository comment.

Teachers are tempted to add what they know to every statement made by a pupil. When the pupil seems inclined to talk, the teacher's demeanor and expression should indicate that he expects the pupil to continue talking if he wishes to do so. Anything important to an individual is usually flavored with emotion. Therefore, in order to help a pupil, the teacher should learn to detect expressions of his feelings. One example of this can be seen in anything the student is "for" or "against." Any area of frustration will usually generate strong feelings. By letting a pupil express his feeling, teachers may not only understand him better, but they will also help him understand himself. Only by letting him develop his viewpoint will the true dimensions of the human situation be revealed.

If we are to listen to youth with the idea of learning from them, i.e., gaining insight into their problems and viewpoints, then some allowance must be made for the unforeseen, for the unfolding of all the implications of a situation. While some discussions may progress to an early denouement, it is conceivable that some will not and that it may not be desirable for them to do so. For many of life's pressing problems there are only tentative or partial solutions.

GROUP DISCUSSIONS

Teachers who are interested in discoverinmg the inner feelings of their pupils must be skillful in the art of conducting group discussions. The skill referred to here is analogous to some aspects of counseling; i.e., the leader says only that which is necessary to keep the participant moving toward full exploration of the problems at hand. The leader should assume as neutral a role as possible. His comments should be so worded as not to steer the discussion. For instance, at the conclusion of a pupil's statement he might say, "That's an interesting thought" or "Could you develop that further?" rather than "That's a *good* idea." He must be careful to avoid such statements as, "Don't you think it would be better if . . . ?" or "Why do you believe that?" or "Was that the right thing to do (or say)?" Whenever a question invites a "yes" or "no" answer, whenever a student is precipitated into defending a position, the discussion at that point is terminated.

There is another method which can help teachers extend their understanding of students. People in occupations where understanding human beings is essential have

found that "role playing" can make a significant contribution to understanding the other person's point of view. This is a method used extensively to train counselors and supervisors in the art of interviewing. In studying youth, however, the teacher, meeting with the staff, assumes the character of a pupil under any one of a variety of circumstances and then tries to identify with and act out what would be the expected responses in that situation. When this is carefully done, the teacher playing the part of the pupil usually gains some insight into just how such a pupil might feel.

The staff can easily produce numerous examples typical to youth: the girl whose parents will not permit her to participate in adolescent social activities; the boy who wants to drive the family car; the youth who doesn't have enough spending money; the girl who is so tall or overweight that she worries about her appearance.

Role playing can likewise be very useful in helping adolescents act out some of their own problems, particularly those involving social know-how. For instance, pupils want to know how to ask for a date, how to greet a hostess at a party, how to introduce people to each other, how to "keep conversation going." In doing this, there is a secondary benefit for the teacher: the situations give him some insight into how pupils react in these circumstances. To some extent, this is a first-hand experience in observing boys and girls in situations otherwise not available to many teachers.

Such role playing is spontaneous acting out, i.e., dramatization of human situations. Another way to use drama is through the use of the one-act plays developed by the American Theatre Wing. One in particular, entitled *The Ins and Outs*, is especially written for teenagers and can be produced by them in school. The play reveals some of the anguish suffered by a youngster who, for some reason or other, is excluded from peer groups within the school. These plays, which depict easily recognized problems involving children and adults, are designed for easy production by parent and teacher groups. They have proved to be highly worth while.

A word of caution is necessary here regarding the limitations of any of these projective technics. They are useful as tools for increasing teacher understanding of pupils' inner feelings as these are accurately interpreted. But since the interpretation is so subjective, one must be cautious about jumping to conclusions. These are "clinical" devices: they provide clues to a pupil's personality which must be supported by observation and other data. They are best used by a teacher who has a flexible and imaginative approach to the challenge of understanding boys and girls and who is well grounded in the findings of the behavioral sciences. •

Are You Confused by Facts?

Facts Are Vulnerable

KENNETH H. HOOVER

In The Clearing House

MARY had her class report ready for presentation. The suggested references had been most interesting to her, and she felt eager to tell the class about those girls who had actually been raised by wolves for a number of years. That was yesterday. And then today Professor Brown indicated one additional reference. Mary was not disturbed, especially since he had let her use his personal copy of the reference.

But now Mary asked herself for the hundredth time what Professor Brown wanted! "Doesn't he realize that the last reference was a deliberate attempt to contradict what I had prepared from the others? Why does he have to confuse me?"

Mary's quandry seems to parallel that of the fellow who said: "My mind is made up. Don't give me the facts; they only confuse me."

The tremendous impact of mass-communication media within recent years has pointed up the special need for an educated citizenry—one which can evaluate critically what is read and heard. In my work with people preparing to teach in the public schools, I have been attempting to help them develop methods of critical evaluation in dealing with social problems. Such a method involves looking for as many "facts" as are readily accessible and evaluating those "facts" in the light of present conditions. By bringing about a recognition of the bias and inconsistencies involved in social "facts," I have attempted to indicate the tentative nature of any postulates. Instead of teaching "facts," it may be more important to direct individuals in an appropriate method of gathering data and recognizing the tentative nature of such data.

Kenneth H. Hoover is Assistant Professor of Education at Arizona State College, Tempe. Reported from The Clearing House, *XXXIII* (*November* 1958), 136–38.

A student directed in such a manner considers the available facts in reaching a tentative conclusion. If they are contradictory, he recognizes the impossibility of being too definite. The following example written by an unusually capable individual illustrates how the same "facts" gathered by Mary impressed *him*.

The story of the wolf children appears to me to be plausible and it is or was supported by a number of leading sociologists, but there are some very serious discrepancies in the story. This may indicate that the children may not

have actually been subjected to a "wolf life" as was contended. It does appear, however, that these children experienced an environment of extreme isolation for quite a period of time . . . .

The student who wrote this has said that he was vaguely conscious of certain discrepancies in the printed material during his first reading. Then he noted that he tended to exclude these discrepancies from consciousness, because *he wanted to believe the story.*

It has seemed to me that the gullibility of many students may be attributed to a number of false-to-fact premises:

Accepting, uncritically, the authority of a professor, a textbook, or other printed material. This premise may be a result of a school system, including college, where emphasis is placed on the answers rather than the questions. It has been suggested that a necessary first step in solving today's complex social problems involves the asking of clear, answerable questions. Also implied in this premise is a static notion of reality. We cannot—we must not—assume that the facts of today and accompanying decisions or conclusions will be appropriate for tomorrow's world of unbelievable scientific advances.

A two-valued orientation. This citizen or student insists that book one is right and book two is wrong. That both may contain some truth, along with some fiction, may never occur to this individual.

Identification. This person tends to take a stand on the basis of meager or hearsay evidence. He then identifies his position as truth because ". . . . well, common sense says so!" He fails to recognize that what he calls common sense involves numerous value judgments, none of which may have been properly evaluated. After his mind is made up, he is not willing to change it. To him, truth is truth. It may never occur to him to ask challenging questions about the issue—questions that might open fruitful avenues of research. His own frame of reference is *the* frame of reference, and those who just will not look at the problem "objectively" are to be pitied or put in their places.

The real test of an educated person is the extent to which he is able to solve his own problems in light of the evidence available. Such an individual is indeed skillful at changing his mind! It would seem as if a basic purpose of the educational system in America should be to assist the individual to become progressively more able to cope with conditions in a rapidly changing society. There appears to be evidence which indicates that our schools—colleges especially—are too frequently not rendering this service as well as might be expected. •

I RESPECT faith, but doubt is what gets you an education.—*Wilson Mizner.*

1959

Some Teachers Are Error-Prone

Analysis of Errors Made in Scoring Standardized Tests

BEEMAN N. PHILLIPS and GARRETT WEATHERS

In Educational and Psychological Measurement

FROM the beginning of the testing movement there has been great concern over the validity and reliability of tests, and tremendous efforts have been made to develop tests which are as valid and as reliable as possible. However, such efforts are largely negated if tests are not accurately scored.

For this reason, it is important to know how accurately standardized tests are scored by individuals, and the problem takes on added significance when it is realized that the majority of standardized tests are hand scored.

These were the observations of the writers which led to a study of the matter. Since a large proportion of standardized tests are used in the public school, this study was made of tests scored by teachers in a large city system. The tests scored by these teachers were analyzed in an effort to answer these questions: How many errors were made? What type of errors were they? What teachers made them? What was the effect of these errors on test results?

Twenty-seven third-grade and 24 fifth-grade teachers were used in the study. The teachers were randomly selected and they represented about one fourth of the teachers in the system in these two grades. A total of 5017 subject tests of the Stanford Achievement Test, elementary and intermediate, were scored by these teachers. All the tests were later rescored by members of the research and testing department.

Beeman N. Phillips is a member of the faculty at the University of Texas, Austin, and Garrett Weathers is with the School City of South Bend, Indiana. *Reported from* Educational and Psychological Measurement, *XVIII* (*Autumn* 1958), 563–67.

Scoring errors were analyzed by teachers and classified as errors due to: (a) counting, (b) failure to use key correctly, (c) failure to follow specific instructions given for each subject test, (d) incorrect use of table—used wrong table, used raw score instead of converted score, or transposed numbers, (e) computation—failure to compute correctly. Each incorrectly scored test also was checked to determine the effect of the error on the grade equivalent assigned.

Of the 5017 subject tests scored by these teachers there were 1404 or 28 percent with errors. The most

common error involved counting. It accounted for almost half of the errors found. The failure to use specific instructions was the next with about 25 percent. Not using the key properly and using the wrong table accounted for most of the remaining errors.

SOME MADE MANY ERRORS

The study of the teachers who did the scoring revealed that there were some teachers who made practically no errors. At the same time, there were others who made errors on more than half of the tests they scored. In examining individual teacher errors, a great deal of variation was found in the type of error committed. In ten cases, counting inaccuracies accounted for most of the errors committed. In eight other cases, failing to follow instructions, using the wrong table, or improperly using the key accounted for most of the errors. In the remainder, there was no strong predominance of one type of error over others.

The study of the effects of these errors on the grade equivalents assigned pupils showed that the large majority of errors caused a change of less than one-half of a grade equivalent. But about half of the grade equivalents were lowered by from 0.1 to 3.5 grade equivalent, or a median of .29 grade equivalents. Those which were raised were raised by from 0.1 to 3.8 grade equivalents, and for these cases the median increase was .31 equivalents.

Although the big majority of these errors fell within the limits of the standard errors on the tests, the potential effect of the larger errors on the pupils involved must be considered. A great deal of emphasis is put on test results, and greater care is needed to avoid the injustices which might result from the use of such erroneous test data.

The results of this study also suggest that many of the scoring errors of teachers could be eliminated by greater familiarity with the test manuals and test scoring procedures. This would eliminate many of the errors due to using the wrong table or misusing the key, although it is doubtful that it would have much effect on counting errors. The great variation in the number of errors committed by different teachers indicates that some teachers are "error-prone." This suggests the need for studies of the characteristics of teachers who make numerous errors, and this in turn may open the way for devising steps and procedures to decrease the number of errors.

An alternative would be to have all standardized tests machine-scored, and in many school systems this is a common practice. However, this would not solve the problem in the lower grades where most standardized tests cannot be machine scored. Here the only solution appears to be what has already been suggested—working with teachers and devising various techniques and procedures for insuring greater scoring accuracy. •

Is Time as Scarce as We Think It Is?

"I Never Have Time to Read"

JOHN STERNIG

In The National Elementary Principal

HAVE you ever heard a professional associate say, "I never have time to read"? As a matter of fact, how are you doing on that pile of professional magazines you have accumulated for that "free evening" or that "unscheduled weekend"? How about those important reports on research on a half dozen pertinent topics you have promised yourself you will surely get at before the year is over? Can you keep up with the professional reading you ought to do, or do you scan the book reviews in hopes of getting at least the gist of what you can't read yourself?

What's the answer? First of all, time may not be really as scarce as we make out. It may be that the problem is not that there is no time to read but that you choose to use it for other activities. This is a matter of the rationing of time and some selfdiscipline, which are matters of personal decision. But it may be helpful to discuss here some of the ways in which teachers and administrators can better obtain, read, and use the wealth of professional material available.

We might ask ourselves how professional materials come to our attention. Some, of course, we run across by ourselves, others are brought to our attention by associates, still others reach us through the mail as part of membership or as advertisements. And every year we probably miss more than we read.

John Sternig is Assistant Superintendent of the Glencoe Public Schools, Illinois. Reported from The National Elementary Principal, *XXXVIII* (*October* 1958), 12–13.

What plan does your school use for sharing ideas gained from materials read by staff and administration? If the reading is done toward the solution of an individual or committee problem or project, the ideas are incorporated within the final product. But how about the materials of general interest read by various people?

Have you ever tried a fireside book-night where interested people come to discuss a book all have read or to hear reports on books read by individuals? Do you ever have brief reports of books or articles at faculty meetings, at the lunch table, or at other times when staff members get together? Such discussions may make it possible for the main ideas of new materials to be presented and evaluated without the need for everyone to read everything.

Have you a professional library in your school or school system? Books for teachers are as essential as books for children. As teachers, administrators, or specialists discover new and useful materials they should be requisitioned for the professional library. But, once obtained, they must be used to be of any value. The person who orders the book has a responsibility for seeing that it is used. Perhaps a review for the bulletin, a report at a meeting, or a personal suggestion will get the material used where it is needed.

The principal can use such professional materials to help a teacher with whom he has been discussing some problem. He can take the new book on science education to the new teacher who needs it. The committee chairman can use the professional library for providing up-to-date material for his group. In this and other ways the library becomes a resource for school improvement rather than just a collection of books. Reading for a purpose is more conducive to changes in practice than mere general reading.

Have you any plan in your school for sharing good ideas presented in the periodicals and yearbooks which often come addressed to the superintendent or principal? In the offices of these persons good materials sometimes pile up all year, eventually to be filed, discarded, or forgotten. The same thing often happens to reports of research and new developments. The busy administrator skims them, makes a mental note to study this or that, and then gets swamped with other things while the mail brings a new load about which to feel frustrated.

If this sounds familiar, why not work out a routing system. Someone looks at materials as they come in, decides who can make the best use of them, and then routes them accordingly. The individuals receiving the materials take the responsibility for sharing new ideas in an appropriate way. The load of reading and evaluating is thus divided and the chances for getting new ideas into action improve.

But no matter what plans you use or may adopt in your school to find out about and obtain new professional materials it all gets back to the original problem. How do we find the time to read and to use what we read? We all do the things we consider to be important. Let's convince ourselves that professional reading is important to each of us individually and to the school system in which we work. With such conviction the time will probably be found. Without this conviction this article has been in vain. •

A WIFE doesn't mind her husband's claim that he can read women like a book so long as he does his reading at home.—From *North Carolina Education.*

The Difference between Stagnation and Progress

Professional Salaries for Professional Teachers

In Financing Professional Salaries for Professional Teachers

SALARIES are a major factor in determining choice of a career. Unless the American public can raise the salaries of teachers to a professional level, education will continue to lose talented and interested people to other fields.

For all teachers in public schools the average salary in 1957-58 was $4650. The estimated average income in the 17 professions for the same period was about $7600, or 63 percent above the average teaching salary, but in urban and high-income areas professional earnings average much more than $7600.

A professional salary for professional teachers means four things; higher starting salaries, greater financial recognition for advanced education, more substantial annual salary increases, and maximum salaries that compete with other professions.

Higher starting salaries would make selective recruitment possible. Teaching offers too little in economic return or professional opportunity to recruit the number and quality of college graduates needed. This problem will be greater as enrolments grow and more teaching positions are required.

The beginning salaries offered 1958 college graduates are higher in other fields. For instance, engineering men graduates received

Reported from Financing Professional Salaries for Professional Teachers, *published by the Committee of Tax Education and School Finance, National Education Association, Washington, D. C.*, 1958, 9–21.

$5616 beginning salary; accounting men graduates received $4992; sales men graduates received $4944; general business men graduates received $4896; and other fields, $5148. The average for all fields was $5160.

Engineering women graduates earned $5412 beginning salary; chemistry women graduates earned $5052; scientific research women graduates earned $5040; accounting women graduates earned $4332; mathematics-statistics women graduates earned $4308; home economics women graduates earned $4260; business trainee women graduates earned $3924; secretarial women graduates earned $3744; and other fields $3900. The average for all fields was $4356.

Men and women graduates in classroom teaching, however, received only $3650 beginning salary.

Greater recognition for advanced education would mean better teaching. Teachers are the most school-going people in the coun-

try. Although their salaries for many years have been lower or only slightly higher than the earnings of all workers, the training of the majority of teachers is at a professional level. Two-fifths of classroom teachers, it can be pointed out, have five years or more of college.

Three out of four classroom teachers are expected by their school systems to take added college courses from time to time. Outside the field of education a premium is given for college study, particularly beyond a bachelor's degree, but in school systems, differentials for advanced training are small.

More substantial annual increases would reduce the loss of teachers. Ten years after graduation, many college graduates in other professions earn more than double the salaries of beginners, according to a study by Endicott. Other studies tell the same story. Classroom teachers, on the other hand, after 10 years earn less than 50 percent above beginners.

Maximum salaries that compete with other professions are necessary. The maximum salary should be more than twice the minimum salary. Within 8 to 12 years the teacher should earn double the minimum salary. Later increments at longer intervals should recognize added education and experience. In the typical city-school schedule the classroom teacher's top salary for maximum preparation and experience is only about two-thirds more than the minimum. In recent years, maximum salaries for teachers have been increasing at a slower rate than minimum salaries. Admitedly, starting salaries must be raised. But to recruit the person who will make a life career of teaching, the higher rate of increase must be applied to maximum salaries. The NEA Representative Assembly in July, 1958, recommended a salary goal ranging from $6000 to $13,000 for classroom teachers.

WHAT WOULD IT COST?

What would it cost to raise teachers' salaries toward professional levels? Let's look ahead four years.

To maintain the status quo we must provide teachers for 4½ million more pupils. With present pupil-teacher ratios, this will add 191,000 teaching positions. We must, also, continue salaries of teachers at 6 percent annual advance prevailing since 1950. This would mean a $5870 average by 1961-62.

To achieve real educational progress, in the next four years we must reduce pupil-teacher ratios. For all 38 million pupils, ratios of 25 to 1 in elementary and 20 to 1 in high schools would add another 283,000 teaching positions. We must, also, raise teachers' salaries toward professional levels. To increase salaries by 12 percent a year would mean an average of $7550 by 1961-62.

Teachers' salaries raised 12½

percent annually would reach 85 percent of professional earnings in four years.

To maintain the status quo in class size and salary advances would raise the total from $6.2 billion in 1957-58 to $8.9 billion in 1961-62. Smaller classes and improved salaries will raise the total to $13.6 billion. Improved salaries only would raise the total to $11.5 billion.

Can the nation afford $13.6 billion for teachers' salaries? Yes! As an investment in our nation's future the returns would be great.

The 1957-58 total for teachers' salaries of $6.2 billion was less than 1.5 per cent of the Gross National Product of $435 billion. Conservative estimates of the Gross National Products foresee an average increase of 3 percent a year. By 1961-62 this would raise the GNP to $489 billion. A 4 percent increase would raise it to $509 billion, and 5 percent to $529 billion.

Even by the most conservative estimate $13.6 billion to teachers' salaries would be only 2.8 percent of the Gross National Product by 1961-62.

Just to maintain the status quo in teachers' salaries in 1961-62 will require from 1.6 to 1.8 percent of the Gross National Product. With great effort this can be provided from state and local support.

Federal support offers the only hope for real improvement. States and localities will receive from this source additional funds to devote to teachers' salaries. This is the money that will make the difference between stagnation and progress in public education. •

MANY factors prevent women from looking on teaching as a life-long career field . . . Parents, ministers, career counselors, even teachers themselves, as well as the legal employment practices of many boards of education, have pooled attitudes and influence to persuade young women to prepare for teaching for the wrong reasons.

For example, we have counseled girls to prepare for teaching as a good "insurance policy" against failure to get married, or against the time when an established marriage might be interrupted by the loss of the husband. No woman enjoys the anticipation of collecting on an insurance policy, either for a husband departed or for one who has not yet arrived.

Counselors have stressed the nonprofessional aspects of the teachers' career—the summer vacations, the long weekends, the opportunities to live in different parts of the country—in recruitment instead of emphasizing the intellectual, social service, and humanitarian aspects of teaching.—*Lindley Stiles,* University of Wisconsin.

With Education in Washington

THE EDUCATION DIGEST WASHINGTON BUREAU

Washington Reawakens. — The start of a new year and the beginning of a new Congress produce a paradoxical situation in Washington. There is great activity but there are few immediate results. It is a time for stock-taking and of organizing and preparing for a new year, a month of predictions and hopeful announcements.

Congressmen with seniority move into better offices and new Senators try to get preferred committee assignments. The lobbies and membership organizations keep a sharp eye on the President's budget (and on his message on the State of the Union).

There were ample leaks that the President's budget was to be relatively low. Education leaders were so prepared for this that they can't really be said to have been disappointed. Arthur Flemming, Secretary of Health, Education, and Welfare, in late December said that no decision had been reached on an Administration proposal for school construction, but nobody seriously expected the President's budget to provide a real answer to the shortage of classrooms.

Shortages.—Last year's shortage of 140,000 units, according to advance word, probably was reduced to 135,000 as reported by the states to the U. S. Office of Education. As usual, this mild shift could be used to prove that the gap was closing and that there was no need for federal action. It also could be used to show that progress was so slow that even if it were sustained, it would come too late.

Mathematically, it could be shown that a six-year-old American youngster could enter school this year and graduate from high school 12 years later before there was an end to half-day sessions and oversize classes.

Similarly, there is a current shortage of 135,000 qualified teachers. Good teachers continued to leave the profession (although the large majority stayed put) and good prospects are being sidetracked into jobs they consider more rewarding. The NEA Research Division says:

About 121,000 teachers will leave teaching in 1958-59, a turnover of 9.4 percent, not including turnover within a given state.

Significantly, the NEA says that "school systems which pay above the average in salaries are usually the same systems which provide good working conditions . . . The teacher is highly mobile. He can transfer . . ."

The year-end figures include these:

- Classroom teachers: 1,292,000, an increase of 4.4 precent over 1957-58.
- Instructional staff: 1,396,000, up 4.3 percent.
- Classroom teachers' salaries: Average $4775, up 4.5 percent.

More High School?—President Eisenhower launched a flurry of guesses after his informal remarks to the National Committee for the 1960 White House Conference on Children and Youth. Here is what he said:

"I think that we have to put at least one or two more years in our educational system before we say a man has graduated from high school, or at least from his local free system. As I understand it . . . the high school itself came about . . . because it was felt that it was the very minimum of education that every citizen of the United States should have in order to discharge his local responsibilities.

"Now, if he wanted to qualify for broader responsibilities in the educational field . . . then he ought to go to a college, university, or undergraduate school, and so on. But the high school ought to give him a good comprehension of the world in which he lives . . .

"I submit, first of all, life has become too complicated. If that was the standard then, the standard now is too low. Life is too complicated to be satisfied with that kind of education just for local understanding of local responsibilities. Secondly, I think that our youngsters are so much more sophisticated than we were, so much more ready to meet complicated small problems that I really believe we could do well by including what we call junior college, or certainly something near it, so that they can enlarge themselves to the extent of their capability in a good high-school system even if they never have the urge or opportunity to go to college."

Was this a call for a six-year high school? Or was it an endorsement of the junior-college idea? For that matter, is it possible clearly to distinguish between the two questions?

In several states the public junior colleges are part of the secondary-school system. This includes California where 63 junior colleges have an enrolment of 413,000, twice the total of all remaining American junior colleges.

The American Association of Junior Colleges now counts 667 such institutions. These play an important role in providing increased opportunities for high-school graduates and in easing the pressures on higher education. Additional evidence of this comes from a U. S. Office of Education study, showing that more than 20 states recently have surveyed their needs in higher education and are turning to the possibilities of public two-year institutions. In some states this will call for new legislation to authorize junior colleges; in other states these schools will increase in size and numbers and importance.

Growth is well under way: Maryland had four in 1956 and now has 10 junior colleges; Florida plans to increase from four to 35; Massachusetts legislation now permits state support for community colleges.

Summer Enrichment.—Talk of the 12-month school may be on its way out, says the National Association of Secondary-School Principals. In explaining this conclusion, the *NASSP Spotlight* reports that school plants are increasingly busy during the summer months and that they simply won't be available for the four-quarter econom plans which have been drafted and debated from coast to coast.

Summer utilization is increasing. Formerly, there were isolated cases of remedial classes during July and August to allow failing pupils to make up scholastic deficiencies. Tuition charges were normal for this type of operation and occasionally they included students who wanted to take an additional subject or two for credit, especially to get ready for college admission.

New trend is to schedule summer courses for enrichment of all students who wish to enrol. Courses include concentrated study in English, modern languages, science, mathematics. Main beneficiaries today are the academically talented, replacing the failing students who sought makeup work. Ellsworth Tompkins of NASSP says this "makes better educational sense because enrolment is voluntary and motivation is higher."

Refresher for Citizenship.—Congress is made up of human beings and our national legislative body sometimes behaves in the same manner as many of us. It makes decisions, but it does not always carry them out, or executes them only in part.

The National Defense Education Act of 1958 is an example of this. During debate and immediately after passage, there were frequent references to this as a billion-dollar proposal. In fact, it authorizes $887 million over a period of four years. This is close enough to a billion dollars to make it legitimate so to describe this educational milestone, always keeping in mind that this is for four years. In the minds of many headline-scanning citizens, however, there merely remains the memory of a nice round billion dollars, without a realization of what this means in practice.

For 1958-59, the first year of operation, Congress actually authorized $183 million. This may be described as the decision. When we come to the execution, Congress actually appropriated $40 million to carry out the new programs, with an additional $750,000 for the U. S. Office of Education for salaries and expenses in administering the many provisions of the National Defense Education Act of 1958.

There is a surprisingly large number of persons who fail to grasp the distinction between Congressional authorizations, which always come first, and appropriations, which often are smaller although of crucial importance because they actually make the money available for commitment.

The billion-dollar Hill-Elliott bill at present is a $40 million trickle. There is good reason to think that

the U. S. Office of Education at first could not efficiently allot and commit more than this amount. It had to recruit specialized personnel and draft proper safeguards to ensure that the money would be spent in accordance with Congressional wishes.

Today, half a year after the new law was passed, most of the authorized programs are well under way, and Congress faces the decision of supplementary appropriations for 1958-59 (to increase the available $40 million), as well as the size of the 1959-60 appropriation which cannot be larger than the authorization and may well be less. The President's budget offers a clue, but Congress may well pursue a course of its own choice.

Driver Education.—In the minds of many Americans an outstanding example of fads and frills in the public schools is the promotion of driver education.

These Americans are in the minority, for driver education is growing in importance and is enjoying increasing acceptance. In recent years, it has earned a tangible accolade when automobile insurance companies sold policies to young drivers at a lower premium if they satisfactorily completed a course in driver education.

In 1956, the Association of Casualty and Surety Companies said that "high-school driver education [is] essential training for modern living." The insurance industry accordingly has singled out graduates of driver education classes as a method of selecting preferred risks.

It speaks well for the work of the National Commission on Safety Education that it surveyed the research and found some shortcomings and unanswered questions. On the one hand, it can report that "studies show indisputably that those who have had driver education have better driving records than those who have not had driver education."

It then mentions the "extreme difficulty of scientifically measuring so complex and complicated a phenomenon as driving behavior." Finally, the more rigorous the experimental controls, the smaller the differences in performance tend to be. Significantly, the difference remains, but better research is needed.

The concluding paragraph of the analysis has a bearing on the entire question of what the schools should teach, and whether education should not be more than the mastery of the three R's:

"The vast experience of the American people in mass education has been that a good school teaches better than a poor school and a poor school better than no school at all. On this empirically derived feeling, free public education exists. The curriculum of the school is determined by a feeling for, or an awareness of, those things which are most worthy. It is culturally determined. Traffic safety education is a demonstrated and expressed cultural need . . ." •

• Educational News •

CHANGES IN SUPERINTENDENCIES:

Enid, Okla.: **DeWitt Waller,** superintendent 24 years, has retired.

Marshall, Tex.: **Von Rhea Beane,** formerly at Mineola, Tex., is now superintendent.

Meadville, Pa.: **William C. Frye, Jr.,** formerly assistant superintendent, is now superintendent.

COLLEGE PRESIDENTS:

Mills College, Oakland, Calif.: **C. Easton Rothwell,** director of the Hoover Institution on War, Revolution, and Peace at Stanford University, has been named successor to **Lynn White, Jr.,** resigned.

OTHER CHANGES AND APPOINTMENTS:

Novice G. Fawcett, president of Ohio State University; **George D. Hann,** superintendent at Ardmore, Okla.; **A. John Holden,** Vermont state commissioner of education; **Mrs. Elsie Parnell,** Mineral Wells, Tex.; and **Mrs. Rachel R. Knutson,** Seattle, Wash., have been appointed as new members of the Educational Policies Commission.

Herbert Andrew Smith, professor of education at the University of Kansas, and **William Riley Parker,** distinguished service professor of English at Indiana University, are new appointees of the U. S. Office of Education to assist in administering the National Defense Education Act of 1958. Dr. Smith has been named to the newly established position of Chief of the Science, Mathematics and Foreign Language Section. Dr. Parker has been appointed to head the Language Development Program.

RECENT DEATHS:

Donald G. Tewksbury, professor of education at Teachers College, Columbia University, and a well-known specialist on Far Eastern Affairs, at the age of 64.

James M. Wood, past president of Stephens College, Columbia, Mo., at the age of 82.

AASA Convention

THE arts, which have played second fiddle to science and mathematics in current discussions of education, will star at the 1959 annual convention of the American Association of School Administrators, to be held at Atlantic City, Feb. 14-18.

Major emphasis will be given to music, fine arts, drama, literature, the dance, arts and crafts, and architecture. From the opening presentation by the Walt Disney Productions on creativity in the graphic arts to the closing session, a musical program by pianist Van Cliburn, the 10 general sessions will feature great individual artists and performing groups.

Group sessions will be devoted to all phases of educational problems, but even here 23 out of the 103 group sessions will deal with some phase of the arts. Running simultaneously with the group sessions will be continuous shows of art and music.

The 1959 American Education Award, presented for outstanding contribution to the broad field of education, will be presented at the final general session to Joseph E. Maddy, president of the National Music Camp at Interlochen, Mich., and professor of music at the University of Michigan.

NEA Dedication

THE new NEA Headquarters in Washington, D. C., will be dedicated Feb. 8-10. In observance of the event, plans for nationwide community observances are being made by more than a thousand local associations.

Speakers during the two-day celebration in Washington will include past and present NEA officers. William E. Givens, former NEA executive secretary, and William G. Carr, current NEA executive secretary, also will play a prominent part in the ceremonies.

Tomorrow's Classrooms

TODAY'S school children are generally being "impoverished" by lack of bold thinking about the needs of today's classrooms, a group of educators and architects decided at a special seminar held in December to dedicate the Brunswick-Balke Collender Company's new educational research center in Kalamazoo, Mich.

The experts expressed the belief that 10 years from now Americans won't even recognize the look of the typical classroom today. The future classroom would have a more living-room-like atmosphere, would be convertible for expansion or contraction, and "there might well be school buildings with no four-wall units at all," the group agreed.

Among the speakers at the seminar was Harold Gores, president of the Educational Research Facilities of the Ford Foundation. Paul W. Seagers, professor of education at Indiana University, was chairman of the seminar.

Experimental College

WAYNE State University, Detroit, Mich., has announced that, with the assistance of a $700,000 grant from the Ford Foundation, it will establish in September, 1959, an experimental college designed to develop an improved program in general education.

The major innovation of the new college is that all students will be required to take work in the natural sciences, social sciences, and the humanities throughout their four undergraduate years. Within these areas, customary divisions of subjects into academic courses will be largely discarded. Instead, traditional academic studies will be combined to form courses covering basic fields of knowledge.

Clarence H. Faust, vice-president in charge of the Ford Foundation's education program, in announcing the grant stated that there have been practically no new experimental institutions concerned with further development of undergraduate programs of general education during the last quarter of a century.

School Board Studies

A NEW Center for School Board Studies, which will seek to improve public education by raising the quality of school board membership and performance, has been established at Northwestern University, Evanston, Ill.

The new Center, which has been jointly established by the National School Boards Association and Northwestern University, will work to identify major areas in which school board research is needed. It plans to undertake specific research projects both independently and in cooperation with other organizations and universities.

The National School Boards Association, as part of the cooperative arrangement, has moved its headquarters from Chicago to Evanston.

Overseas Contacts

THE American Overseas Educators Organization has announced a European Group Charter Flight for teachers interested in making educational contacts while traveling in Europe.

Plans call for the flight to leave Detroit, Mich., on July 10 and to return from Frankfort on Aug. 19.

Opportunities for educational contacts with individuals, institutions, and organizations will be made available either on an individual basis or an organized group basis. Information can be obtained from Olga E. Shuster, American Overseas Educators Organization, 16213 Washburn, Detroit 21, Mich.

Russian Visitors

TEN Russian educators and education officials returned to Russia on December 18 after spending a five-week tour visiting American educational institutions.

The Russian group was headed by A. I. Markushevich, first assistant minister of education for the Russian Soviet Republic.

The Russian educators were returning an official visit to U. S. S. R. educational installations made last May and June by a group of American educators headed by Lawrence G. Derthick, U. S. Commissioner of Education.

DATES OF THE MONTH:

Feb. 7-11, National Association of Secondary-School Principals, Philadelphia, Pa.

Feb. 12-14, American Association of Colleges for Teachers Education, Chicago, Ill.

Feb. 14-18, American Association of School Administrators, Atlantic City, N. J.

Feb. 15-22, Brotherhood Week.

Feb. 28-Mar. 4, Department of Elementary-School Principals, NEA, Los Angeles, Calif.

DATES OF THE COMING MONTHS:

Mar. 1-4, Association for Higher Education, Chicago, Ill.

Mar. 1-5, Association for Supervision and Curriculum Development, Cincinnati, Ohio.

Mar. 9-14, National Art Education Association, New York, N. Y.

Mar. 31-April 3, National Catholic Educational Association, Atlantic City, N. J.

Mar. 31-April 4, National Science Teachers Association, Atlantic City, N. J.

April 1-4, National Council for Teachers of Mathematics, Dallas.

April 12-18, National Library Week.

April 13-16, Department of Audio-Visual Instruction, NEA, Seattle, Wash.

April 22-25, American Industrial Arts Association, Long Beach, Calif.

Schoolhouse. Edited by Walter McQuade. New York: Simon and Schuster, 1958. Pp. 271. $10.00.

Public-service grants by the Aluminum Company of America, editorial, pictorial, architectural, and educational talent from throughout the United States joined to produce this readable and understandable book that should be of help to all who are faced with the problem of building a school.

According to Alcoa President, Frank L. Magee, the book is offered as "a tool to help the reader find answers, particularly if that reader is a school-board member, a parent, or a layman involved in school-building decisions."

The book is profusely illustrated with excellent photographs of school-age youngsters and with many drawings.

Teaching in the Secondary School. Herbert J. Klausmeier. New York: Harper & Brothers, 1958. Pp. xii + 499. $5.00.

This book, a revision of *Principles and Practices of Secondary School Teaching*, is improved both in format and content.

In addition to more readable type and the inclusion of many photographs, the chapters have been rewritten and three new chapters added on "Identifying and Providing for the Gifted," "Organizing and Directing Cocurricular Activities," and "Reporting Pupil Progress."

The book is divided into four parts: Bases of Creative Secondary

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Education; Creative Teaching-Learning Activities: Developmental Sequence; Creative Teaching-Learning Activities: More Specific Phases; and Expanding Responsibilities and Challenges.

Questions and activities and references are included at the end of each chapter.

Who Runs Our Schools? Neal Gross. New York: John Wiley & Sons, Inc., 1958. Pp. xvi + 195. $4.75.

The major objective of this book is to examine the impact of the many different views regarding public education. It offers answers to such questions as: Who does most to promote or block public education? Who applies what kinds of pressures to the educational decision-makers? How do school boards evaluate their superintendents? What are the obstacles confronting school superintendents? How do school boards behave? Why do school-board members seek their jobs?

This book is based on research, not speculation. The author is on the faculty at Harvard University.

ELEMENTARY

Social Studies: Grades 3-4. Curriculum Bulletin No. 6, 1957-58. New York City Board of Education. Pp. 74.

Space, Arrangement, Beauty in School. Edited by Margaret Ras-

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mussen. Washington: Association for Childhood Education International, 1958. Pp. 52. $1.

The World of Christopher Robin. A. A. Milne. New York: E. P. Dutton & Company, 1958. Pp. 234. The complete *When We Were Very Young* and *Now We Are Six*, illustrated by E. H. Sheppard. $3.95.

Secondary

The United States: A History. Ralph W. Steen. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1959. Pp. viii + 568. $4.68.

Biology (Regents Course). Curriculum Bulletin No. 10, 1956-57. New York City Board of Education. Pp. 205. $.80.

Elements of the Universe. Glenn T. Seaborg and Evans G. Valens. New York: E. P. Dutton & Company, 1958. Pp. 253. $3.95.

Lovejoy's Prep School Guide. Clarence E. Lovejoy. New York: Harper & Brothers, 1958. Pp. 120. $4.50. Gives facts about 1800 college-preparatory schools.

Junior High School Social Studies, Junior High School Science, High School Science, and High School English. Chicago: Field Enterprises Educational Corporation, 1958. Pp. 64, 40, 64, and 48. Instructional aids for teachers who have the *World Book Encyclopedia*. $.50 each.

Science Explores the World. Hugh Odishaw. Columbus, Ohio: Wesleyan University Press, 1958. Pp. 47. $.15. Report on the International Geophysical Year Programs.

Guidance

Mathematics and Your Career. U. S. Department of Labor bulletin. Pp. 9. Available from U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Washington, D. C.

Young Dancer's Career Book. Regina J. Woody. New York: E. P. Dutton & Company, 1958. Pp. 185. $3.50.

General

The Public Administration of American Schools. (Second Edition.) Van Miller and Willard B. Spalding. Yonkers-on-Hudson, N. Y.: World Book Company, 1958. Pp. xv + 605. $5.50.

Free and Inexpensive Learning Materials. (Ninth Edition). Nashville, Tenn.: George Peabody College for Teachers, 1959. Pp. 256. $1.50.

The Pageant of South American History. (Revised Edition.) Ann Merriman Peck. New York: Longmans, Green, and Co., 1958. Pp. 409. $6.00.

America's Educational Needs. Edited by Grant S. McClellan. New York: H. W. Wilson Company, 1958. Pp. 269. $2.00. Includes pro and con articles.

Your Guide to Playing and Writing Popular Music. Win Stormen. New York: Arco Publishing Company, 1958. Pp. 64. $3.00. A guide to popular music instruction.

Improve Your Handwriting. Claire Trieb Slote. New York: McGraw-Hill Book Company, 1958. Pp. x + 147. $3.50.

New English-Russian and Russian-English Dictionary. M. A. O'Brien. New York: Dover Publications, 1958. Pp. 366. $2.00, paper bound. Contains over 70,000 entries.

A Guide to Curriculum Improvement in Elementary and Secondary Schools. Willis E. Pratt and Donald G. McGarey. Cincinnati, Ohio: Public School Publishing Company, 1958. Pp. v + 82.

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